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ARCTIC ARMS CONTROL: CONSTRAINTS AND OPPORTUNITIES

By Ronald G. Purver

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by Ronald G. Purver

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TABLE OF CONTENTS

1
Executive Summary

3
Introduction

10
Nuclear Weapon-Free Zones
and the Nordic NWFZ Proposal

23
The Nordic NWFZ: Practical Problems

37
Arctic-wide NWFZs

52
Demilitarized Zones

59
Confidence-building Measures

77
Conclusions

Maps

41
1. Owen Wilkes' Proposed
"Circum-Arctic Demilitarized Zone"

55
2. Franklyn Griffiths' Proposal for
Partial Demilitarization of the Polar Basin

EXECUTIVE SUMMARY

Until recently, the military importance of the Arctic had gradually declined since the days when long-range bombers, and the defences against them, were paramount in the strategic calculations of the Superpowers. Over the last few years, however, several trends in military technology and strategic doctrine have directed attention to the Arctic once again.

Corresponding to this heightened military interest has been a growth in calls for some kind of arms control in the area. The following paper examines a variety of past proposals for such measures; it seeks to explain why so few of them have elicited any interest so far among the governments concerned, and to determine whether any of them are both feasible and desirable in terms of enhancing security in the Arctic (and globally). Because such a large proportion of the calls for Arctic arms control have centred around the concept of a nuclear weapon-free zone (NWFZ), a major part of the paper is devoted to this subject, beginning with a brief summary of past experience with such zones elsewhere in the world. The paper goes on to consider one specific proposal for an Arctic NWFZ which has a long, albeit checkered, history and uncertain future: that for Northern Europe (the so-called "Nordic" zone). It concludes that, contrary to the apparent expectations of some proponents of a broader Arctic arms control regime, the option of expanding or simply joining forces with a nascent Nordic zone is not a viable one.

The paper next addresses the topic of "demilitarization." Truly comprehensive demilitarization — analogous to that already in effect for Antarctica — is dismissed on much the same grounds as the

NWFZ concept. More promising is the proposal originally made by Franklyn Griffiths, in 1979, for a "partial demilitarization" (covering the ice and surface waters) of the central Polar Basin.

The last category of arms control proposals considered in the paper may loosely be termed "confidence-building measures." It is noted that additional measures of the type negotiated in the Conference on Security and Co-operation in Europe (CSCE), recently expanded in the Stockholm Agreement of 1986, may be applicable to Northern Europe and its adjacent sea areas, but are less relevant to the central Polar Basin or to the security concerns of a country such as Canada. Rather, two specific proposals for "stand-off zones" — aerial and submarine — are advanced as possibly negotiable contributions to enhancing the security of the Arctic region more broadly. Finally, also under the rubric of confidence-building measures, the paper briefly examines the prospects of ballistic missile submarine (SSBN) sanctuaries or "anti-submarine warfare (ASW)-free zones," designed to enhance the survivability of the sea-based deterrent.

In conclusion, the paper recommends that, rather than focusing on broad and comprehensive schemes of denuclearization or demilitarization, Arctic arms control efforts should be directed at such measures as a demilitarization of the ice and surface waters of the central Polar Basin; aerial and submarine "stand-off" zones; and geographically limited sanctuaries for strategic ballistic missile-carrying submarines. In particular, it is hoped that the Canadian Government, given its expressed commitment to limiting the "excessive militarization" of the Arctic, will begin to explore thoroughly the possibilities of negotiating, or encouraging the negotiation of, more modest measures of this type.

INTRODUCTION

The Arctic, it seems, has once again captured the public imagination. Its "growth industry" status in the world of academic policy analysis is attested to by an increasing number of conferences and scholarly articles in recent years.* Heightened interest in the region can be traced to any number of factors: the indigenous peoples of the area are beginning to awaken politically and organize themselves domestically and trans-nationally, around such issues as land claims, resource extraction, and environmental degradation; international lawyers are called upon to pronounce on questions of transit passage through straits and maritime boundary disputes, as well as more esoteric themes such as the juridical status of ice-covered waters in general; scientific research is proceeding apace as the circumpolar states begin to stake out national claims to ever-greater portions of the region; analysts of geopolitics in its broadest sense look to the Arctic for new sources of critical raw materials, or promising new transportation routes between Europe and the Far East; environmentalists are keen to preserve what they consider to be one of the most pristine, yet exceedingly vulnerable, existing natural environments in the world. Finally, trends in military technology and doctrine appear to be according the Arctic a military-strategic importance unprecedented in its history.

* I wish to thank Michael Bryans, David Cox, Fen Hampson, and Roger Hill for their helpful comments on earlier drafts of this paper; David Cox and Geoffrey Pearson of CIIPS, and Kari Möttölä of the Finnish Institute of International Affairs, for making it possible for me to attend a workshop in Helsinki at which portions of the present paper were discussed; Mary Taylor for her editorial skills; and Doina Cioiu, for her invaluable secretarial assistance.

The Arctic has played an important role in military-strategic considerations since the dawn of the "air age." Relatively speaking, however, this importance has diminished over the past twenty-five years, as long-range bombers (and the defences against them) declined in importance relative to the growth of intercontinental ballistic missiles and ballistic-missile submarine fleets. At least as long as defence against ballistic missiles was considered unfeasible, the fact that such weapons would, in most cases, pass over the Arctic made little difference to the scale of activities on the ground (apart from the erection and maintenance of some ground-based early-warning systems).

Several recent trends have succeeded in reversing this decline in the military-strategic significance of the Arctic. The so-called "air-breathing threat" has received a new lease on life with the development of long-range, air-launched cruise missiles and new long-range strategic bombers by both the United States and the Soviet Union. The introduction of cruise missiles, in particular, has raised the requirement for earlier detection and interception of air-breathing vehicles, thus extending the combat zone ever northwards into the Arctic. At the same time, the prospect of more effective ballistic missile defences (BMD) adds further impetus to the development of air-breathing systems, as a possible means of bypassing such defences, and of defences against air-breathing systems themselves, as a complement to comprehensive BMD. Elements of BMD systems themselves might well be emplaced in the Arctic, given the premium on intercepting incoming ballistic missiles as early as possible in their trajectories.

Even more dramatic than the developments in air-breathing systems, however, have been those with respect to the sea-based deterrent. As the Soviet Union has built up its submarine-launched ballistic missile (SLBM) fleet over the past decade, it has chosen — for obvious geographical reasons — to base the vast bulk of this force in its Arctic regions, particularly on the Kola Peninsula. At the same time, the acquisition of increasingly longer-range SLBMs has enabled it to adopt a "defended bastions" strategy for the deployment of a growing portion of its force close to home waters, in the

Arctic. New classes of ballistic missile submarines (SSBNs) are being designed deliberately for under-ice operations, and many observers have speculated that the Soviets will extend their Arctic deployments to the further reaches of the Polar Basin.

Trends in doctrine on the Western side have also increased the salience of the Arctic. With the resurgence of damage-limiting strategies by the United States, as reflected in the SDI and the relaxation of inhibitions on the discussion of "strategic" anti-submarine warfare (ASW), the Soviet SSBN fleet is no longer viewed, if it ever was, as a relatively benign instrument to be accorded some kind of sanctuary status. Quite the contrary, US naval strategy has evolved to the point where attacks, or threatened attacks, on Soviet SSBNs in their own Arctic waters, even during the conventional phase of a major East-West conflict, are considered to merit a high priority, as a means of both altering the correlation of strategic nuclear forces, and diverting Soviet defensive forces away from possible attacks on the North Atlantic sea lanes. Thus, increased American submarine and ASW activity in the Polar Basin has been justified on both defensive and offensive grounds — as a counter-reaction to increased Soviet deployments in the region, and as part of a new forward naval strategy designed to put at risk some of the Soviet Union's most dearly-held assets, in their own "backyard."

One result of the renewed attention paid by strategic analysts to the Arctic has been a parallel growth in calls for some kind of arms control regime in the area. On the one hand, peace movements throughout the circumpolar states, including indigenous peoples' organizations, have called for a demilitarization, or at least denuclearization, of the widest possible area of the Arctic. On the other hand, many strategic analysts have drawn attention to what they consider to be the dangerous escalatory potential of the new American "Maritime Strategy" in lowering the threshold of nuclear war. Proposals for exclusion zones (restricting the activities of submarines or ASW forces) and other kinds of confidence- and security-building measures (CSBMs) appear to find favour with some analysts, but have only begun to be developed.

Nowhere have calls for some measure of Arctic arms control been louder or more persistent in recent years than in Canada. In the midst of renewed concern about Canadian claims to sovereignty over its Arctic waters, a long-awaited official review of its defence policy commitments and capabilities in general, and the deterioration of East-West relations since the late 1970s (including the manifest failure of most on-going arms control efforts to achieve substantial results so far), such proposals have been put forward by peace groups, academics, and parliamentarians of all parties.

An indication of official interest on the part of the Canadian Government in some measure of Arctic arms control came in response to the unprecedented canvassing of public opinion on foreign policy issues at the hearings of the so-called Hockin-Simard Committee, the Special Joint Committee of the Senate and of the House of Commons on Canada's International Relations, in 1985-86. In its June 1986 report, the Committee, while rejecting the idea of an Arctic nuclear weapon-free zone (NWFZ), nevertheless recommended that "Canada, in co-operation with other Arctic and Nordic nations, seek the demilitarization of the Arctic region through pressure on the United States and the Soviet Union, as well as through a general approach to arms control and disarmament."[1] The Government's official response to the report, tabled by Secretary of State for External Affairs Joe Clark in December 1986, noted that "the strategic military importance of the Arctic makes it extremely unlikely that the Arctic as a whole can soon be singled out for demilitarization." However, it did undertake to "strive to limit excessive militarization of the Arctic in the context of our wider arms control and disarmament effort, in the interest of strategic stability."[2]

Yet the Canadian Government's approval of a programme to construct a fleet of nuclear-powered attack submarines, announced

1. *Independence and Internationalism: Report of the Special Joint Committee of the Senate and of the House of Commons on Canada's International Relations.* Ottawa: Queen's Printer, June 1986, p. 135.
2. Rt. Hon. Joe Clark, Secretary of State for External Affairs, *Canada's International Relations: Response of the Government of Canada to the Report of the Special Joint Committee of the Senate and the House of Commons.* Ottawa: Minister of Supply and Services, December 1986, p. 32.

in its White Paper of June 1987 and justified at least partly on the grounds of their under-ice capabilities in defence of Canadian sovereignty, suggested to many, both in Canada and abroad, that Ottawa was only aiding and abetting the growing militarization of the Arctic. Was the Canadian Government in fact serious about its commitment to "strive to limit excessive militarization" of the region? How could this commitment be reconciled with the acquisition of nuclear-powered submarines for Arctic missions? Whether the Government would undertake an active campaign of diplomacy in behalf of Arctic arms control remained to be seen. But it was certain that public pressure for some such move would continue to grow in the years ahead.

The following paper will examine a variety of past proposals for Arctic arms control, seeking to explain why so few of them have elicited any interest so far among the governments concerned, and to determine whether any of them are both feasible and desirable in terms of enhancing security in the Arctic (and globally). Because such a large proportion of calls for Arctic arms control have centred around the concept of a NWFZ, the paper will begin with a brief summary of the past experience with such zones in various parts of the world. Such an examination demonstrates the complexity of these arrangements, the quite conditional and limited nature of their success so far, and the range of difficult problems likely to be encountered in any effort to apply the concept elsewhere, including the Arctic.

The paper then moves on to examine more closely the trials, tribulations, and prospects of a "sub-regional" measure of Arctic arms control that has received close but intermittent attention over a period of decades — namely, the proposal for a "Nordic NWFZ" encompassing the nations of Northern Europe. Our survey of this proposal's checkered history and uncertain future makes it clear that, contrary to the apparent expectations of some proponents of a broader Arctic arms control regime, the option of expanding or simply joining forces with a nascent Nordic zone is not a viable one.

Still on the subject of NWFZs, the paper turns to an analysis of

ependent proposals for an Arctic-wide variant. These are found to be not only unrealistic, in terms of their likely acceptability to the Superpowers (as well as to other circumpolar states), but also questionable in terms of their inherent desirability. It is noted that certain nuclear-related installations in the Arctic, such as ballistic missile early-warning radars and communications and navigation facilities, notwithstanding their possible application to aggressive, "war-fighting" strategies, may nevertheless be indispensable to the effective functioning of stable nuclear deterrence. More to the point, the Soviet Union necessarily relies to a critical degree on its Arctic territories for the basing of the most secure element of its nuclear retaliatory force, its ballistic missile submarines. It would be in the interests of neither the Soviet Union nor the West to compromise the relative invulnerability of these forces by the application of arbitrary geographic restrictions. Furthermore, to the extent that Arctic ice-covered waters provide a haven of sorts for these vessels during routine peacetime patrols or in a crisis, the use of at least portions of this region for their actual deployment should be positively encouraged — quite the antithesis of a NWFZ!

After thus calling into question both the feasibility and desirability of an Arctic-wide NWFZ, the paper goes on to examine more modest yet still potentially useful measures to limit the "excessive militarization" of the region. Truly comprehensive demilitarization — analogous to that already in effect for Antarctica — is dismissed on much the same grounds as the NWFZ concept. However, given the growing attention being paid to anti-submarine warfare activities over, on and under the Arctic ice-cap, it is suggested that now may be a good time to revive a proposal, originally offered by Canadian political scientist Franklyn Griffiths in 1979, for a "partial demilitarization" (covering the ice and surface waters) of the central Polar Basin. Such a measure could have the beneficial effect of constraining the ASW threat to ballistic missile submarines in the area, while proving relatively "negotiable" to the Superpowers given the still early stage of developments (other than those involving attack submarines) in this respect.

The last category of arms control proposals considered in the

paper may loosely be termed "confidence-building measures." It is noted that additional measures of the type negotiated in the Conference on Security and Co-operation in Europe (CSCE), recently expanded in the Stockholm Agreement of 1986, may be applicable to Northern Europe and its adjacent sea areas (as well as, possibly, the North Pacific), but are less relevant to the central Polar Basin or to the security concerns of a country such as Canada. Rather, two specific proposals for "stand-off zones" — aerial and submarine — are advanced as possibly negotiable contributions to enhancing the security of the Arctic region more broadly. Finally, also under the rubric of "confidence-building measures," the paper briefly examines the prospects of ballistic missile submarine sanctuaries or "ASW-free zones" designed to enhance the survivability of the sea-based deterrent. While an Arctic-wide zone of this kind may be impractical, given the verification difficulties, more geographically limited zones within the Arctic region would be useful and may hold some promise of future negotiability. In particular, there would seem to be a logical tradeoff between quite extensive submarine stand-off zones around North America and more restricted SSBN sanctuaries in waters adjoining the Soviet Union.

In conclusion, the paper recommends that, rather than focusing on broad and comprehensive schemes of denuclearization or demilitarization, Arctic arms control efforts should be directed at such measures as a demilitarization of the ice and surface waters of the central Polar Basin; aerial and submarine "stand-off" zones; and geographically limited sanctuaries for strategic ballistic missile-carrying submarines. In particular, given its expressed commitment to limiting the "excessive militarization" of the Arctic, it is hoped that the Canadian Government will begin to explore thoroughly the possibilities of negotiating, or encouraging the negotiation of, more modest measures of this type.

NUCLEAR WEAPON-FREE ZONES AND THE NORDIC NWFZ PROPOSAL

As noted above, the vast bulk of arms control proposals focused on the Arctic region have consisted of variations on the theme of nuclear weapon-free zones. Proponents of such ideas often cite the fact that similar zones have been proposed for many other parts of the world, and that historical precedents exist for successfully negotiated agreements on the subject. Among the latter are usually included the Antarctic (1959), Outer Space (1967), and Seabed (1971) Treaties. However, the first two of these are more properly considered to be *demilitarization*, rather than *denuclearization*, agreements, the scope of their prohibitions extending well beyond (while admittedly encompassing) nuclear weapons. The Seabed Treaty is more strictly a denuclearization agreement, while covering in addition "other weapons of mass destruction," but, of course, applies only to unpopulated areas of the world and is global, rather than regional, in geographic scope.

It is true that NWFZs have been proposed for almost every region of the globe. In most cases, however, the idea has gone no further than successive United Nations debates and General Assembly resolutions, and in some cases not even this far. Nuclear weapon-free zones were a popular device of the Soviet Union and its allies in early attempts to forestall the deployment of American nuclear weapons in such areas as Europe and the Mediterranean, and were rejected by the Western states largely for this reason. Later, NWFZs were invoked primarily as a means of helping to stem the "horizontal" proliferation of independent nuclear weapons capabilities to countries that did not already possess them. In this role they were seen as

parallel, or complementary, to the global Nuclear Non-Proliferation Treaty (NPT) of 1968 — broader in the scope of their prohibitions since they also applied to the stationing of foreign nuclear weapons on the soil of states parties, not simply to their acquisition of an independent nuclear weapons capability, and believed to be more palatable to some potential proliferators which opposed the NPT for discriminating against the non-nuclear weapon states (NNWS). This non-proliferation role of NWFZs received considerable sympathy from the major Western states, which nevertheless continued to resist Soviet-bloc initiatives for NWFZs in areas where the military forces of East and West were directly engaged.

After almost three decades of discussion and repeated proposals, only two NWFZs covering populated areas have actually come to fruition: the Treaty for the Prohibition of Nuclear Weapons in Latin America (also known as the Treaty of Tlatelolco), of 1967; and the South Pacific Nuclear Free Zone Treaty (or Treaty of Rarotonga), of 1985. While representing significant achievements and contributions to the cause of nuclear arms control, both of these treaties suffer from serious deficiencies, whether embodied in the agreements themselves or arising from their failure to gain acceptance from regional and extra-regional states. As for the other proposed NWFZs, none has come anywhere close to the stage of a formal agreement being opened for signature, and the prospects for further progress in the foreseeable future appear quite dim. The Nordic NWFZ is a good example of a proposal that has been under consideration for many years but still faces strong obstacles to its coming into being. Yet many proponents of Arctic arms control, and of an Arctic-wide NWFZ in particular, often appear to assume that a Nordic zone, if not already in force, is on the very verge of being finalized in a multilateral treaty.

In any case, given the continued prominence of the NWFZ concept in discussions of Arctic arms control, it is worthwhile here to summarize the experience of the two existing treaties on the subject, as follows:

- No multilateral NWFZ has been created in an area in which

nuclear weapons were currently based, or on the territory of members of either of the two major military alliances;

- Existing NWFZs remain controversial, both within the regions of their application, and as regards outside powers whose support is sought by virtue of their having possessions within the zone and/or nuclear-weapon status. In no case have NWFZs managed to gain the support of all the states of a region or all of the eligible external powers;

- In terms of the functional scope of their coverage, existing NWFZs do not go beyond prohibitions on nuclear explosive devices (and in the Latin American case, not even this far). Most notably, they do not restrict either nuclear weapon-capable delivery systems or a range of installations and activities having to do with command, control, communications, and intelligence (C^3I) — all essential elements of the nuclear weapons infrastructure whose inclusion is demanded by many proponents of NWFZs in other parts of the world;

- Existing NWFZs have lent themselves to differing interpretations, which have the effect of undermining their effectiveness. Of these, perhaps the most serious have to do with the provision of negative security assurances by the nuclear weapon states (NWS) and the continuing disagreement between East and West over whether transits and port calls by nuclear-armed vessels and aircraft in the territories of zonal members should be permitted. Neither of the two existing treaties prohibits the latter; on the contrary, one — the South Pacific NWFZ — explicitly leaves it up to the host nation to decide, while it is clear from the negotiating record of the other — Tlatelolco — that the same principle applies in its case as well; and

- None of the major maritime powers accepts the notion of a NWFZ extending beyond the national territories of its members to encompass portions of the high seas and international airspace, or interfering with traditional rights of passage through international straits, etc..

In short, existing NWFZs have amounted to much less than what may have originally been hoped by their supporters, certainly much less than what is demanded by many anti-nuclear activists, and undoubtedly much less than they are presently given credit for by many advocates and critics of NWFZs alike. This is not to say that the existing zones have no value in themselves, or that they may not be useful as initial steps toward more comprehensive measures of denuclearization. Neither should it be taken to discourage efforts to create new zones in the face of the mixed record and sometimes disappointing results of the existing agreements. But the record of past experience with NWFZs is highly suggestive of the practical difficulties and limitations to be faced by future NWFZ efforts, as well as providing an indication of what they can realistically be expected to accomplish in the near- to medium-term.

A good example of how difficult, complex and time-consuming the process of establishing an NWFZ can be is provided by the Nordic case. Of all the proposals for Arctic arms control, the Nordic NWFZ has received by far the most sustained attention, sparking the greatest amount of public and governmental debate and action. It is therefore worth considering in some detail in its own right, as the most "successful" (yet still unconsummated) example of an Arctic-specific arms control proposal. Moreover, a brief sketch of its evolution and of the remaining problems provides guideposts for an evaluation of the even more ambitious proposals for Arctic "denuclearization" that have been made in recent years but not been elaborated in nearly as much detail.

Evolution of the Nordic NWFZ Proposal

The genesis of the Nordic NWFZ idea is usually, erroneously, traced to a speech by Finnish President Urho Kekkonen in May 1963. Actually, it was first proposed by Soviet Premier Bulganin in letters to the Premiers of Norway and Denmark in January 1958, and reiterated by Premier Khrushchev the following year.[3] It was not

3. For the early history of the proposal, see my *Arms Control in the North.* Kingston, Ont.: Queen's University Centre for International Relations, *National Security Series* No. 5/81, 1981, pp. 89-95.

until 1963, however, that the idea was first taken up by a national leader from within the area itself, namely Kekkonen. At that time the Finnish President, noting that the Nordic states already constituted a *de facto* NWFZ, simply called for "confirming this through mutual undertakings," to "significantly consolidate their own position and remove them unequivocally from the sphere of speculation caused by the development of nuclear strategy."[4] Although Kekkonen insisted that such an "act" would not require a change in the existing policies of the states in question, his use of the word "unequivocally," in describing the aim of his initiative, betrayed the fact that the then-current Nordic abstentions from nuclear weapons were indeed equivocal. For example, NATO members Norway and Denmark had both refused to rule out the deployment of nuclear weapons on their respective territories in the event of crisis or war, maintaining that their self-imposed ban on the stationing of allied nuclear forces applied to normal peacetime circumstances only.

From the very beginning, Norway and Denmark had inquired of Premier Bulganin whether he was prepared to include the northern part of the Soviet Union within the proposed zone.[5] The same theme was taken up by the Swedish Foreign Minister in response to the Khrushchev initiative of 1959.[6] The Soviet leader's reply at the time was that such an idea was "illogical" and "made no practical sense," since "with present-day weapons a difference in range of from 300 to 500 kilometres made no difference."[7] Nevertheless, the Soviets did offer an early version of a negative security guarantee — "a pledge to treat the territory of those countries as being outside the sphere of action of rocket and nuclear weapons, and to respect the status quo in

4. "Finns' Plea for Nuclear-Free Zone," *Times*, London, 29 May 1963, p. 10; and "Kekkonen Renews Plea for Atom Ban," *New York Times* (*NYT*), 29 May 1963, p. 6.
5. "Norway Ponders Reply to Moscow," *NYT*, 13 January 1958, p. 4; and Niels J. Haagerup, "Nuclear Weapons and Danish Security Policy," in: Johan Jørgen Holst (ed.), *Security, Order, and the Bomb*. Olso: Universitetsforlaget, 1972, p. 39.
6. "Sweden Rejects Neutralizing of Baltic," *Times*, London, 27 June 1959, p. 5.
7. "Khrushchev Plan for Wider Nuclear-Free Zone," *Times*, 18 July 1959, p. 6; and A.M. Rosenthal, "Khrushchev Sees Scandinavia Risk," *NYT*, 18 July 1959, p. 2.

this area"[8] — contingent on a similar pledge by the Western powers.

All three of the Scandinavian states speedily rejected Kekkonen's 1963 proposal on the grounds that it needed to be considered in the general context of the disarmament negotiations then going on in Geneva and, in particular, required the prior negotiation of a comprehensive test ban (CTB).[9] Arguments that there was no need to improve upon the existing nuclear-free status of the area; that a Nordic NWFZ could in any case not be pursued independently of broader European (if not global) negotiations; and that at least part of Soviet territory would have to be included in the zone in some way, have persisted to this day.

Despite its earlier reservations, Sweden, from the mid-1970s on, began to express greater interest in the Nordic NWFZ as a separable measure. Rather than speaking of the need to include Soviet *territory* in such a zone, Swedish officials acknowledged that little could be done about the concentration of Soviet ballistic missile submarines on the Kola Peninsula, which was, after all, more germane to the global, than to the regional, nuclear balance. They began to focus on more limited and (presumably, therefore) negotiable *ancillary measures* to be required of external powers as part of a NWFZ arrangement. Specifically, it was suggested that "the medium-range ballistic missiles and the tactical nuclear weapons (all except ICBM and SLBM) that are stationed near the zone and that could be directed against targets within the zone" should be withdrawn as part of any agreement, since they would have been rendered "superfluous" by the negative security assurances of the nuclear weapon states.[10] After it became known, in early 1978, that the Soviet Union had for the first time deployed six ballistic missile-carrying submarines in the Baltic Sea, Swedish Foreign Minister Hans Blix stated

8. As broadcast on Moscow Radio, 14 August 1959, in: United States Department of State, Bureau of Public Affairs, Historical Office, *Documents on Disarmament 1945-1959, Volume II: 1957-1959.* Washington, DC: US Government Printing Office, 1960, p. 1438.
9. Werner Wiskari, "Nordics Reject Finn's Plan," *NYT*, 31 May 1963, p. 2; "Danes Reject Call By Finland," *Times*, 31 May 1963, p. 10; and "Rejection by Norway," *Times*, 8 June 1963, p. 8.
10. "Nuclear Weapons and the Nordic Countries Today — A Swedish Commentary," *Ulkapolitiikka* 1/1975, abstracted in: *Bulletin of Peace Proposals* 6:3 (1975), p. 213.

that it was "obvious that the Baltic Sea must form part of such a zone."[11] The Soviet reaction to such suggestions was swift, clear, and unequivocal. Writing in a Finnish journal, the Soviet "commentator" Yuri Komissarov (widely believed to be a pseudonym for the views of the Soviet leadership) declared the unacceptability of any extension of the zone "beyond the territories of the participating states, [or] into air space or territorial waters which are open to general use in accordance with international law." More specifically, " . . . the Soviet Union is a nuclear power and therefore neither can its territory nor any part thereof be included in a nuclear-weapon-free zone or in a so-called "security belt" adjacent to the nuclear-weapon-free zone; nor can the stipulations of the nuclear-weapon-free zone be an obstacle to navigation by Soviet naval vessels in the straits of the Baltic Sea, regardless of the type of weapons they carry."[12]

A "breakthrough" of sorts for the zone concept came with a revival of interest in the idea in official circles in Norway, in the wake of NATO's 1979 "two-track" decision on modernizing its theatre nuclear forces. A November 1980 pledge by Foreign Minister Knut Frydenlund that Norway would "increase its involvement in favor of such arrangements"[13] prompted British and American requests for clarification of the Government's position. Prime Minister Odvar Nordli replied that any Nordic NWFZ "would have to be part of a broader European arrangement."[14] Similarly, when Labour leader Gro Harlem Brundtland took over as Prime Minister in February 1981, she explicitly disavowed any "isolated Nordic arrangement."[15]

11. Hans Blix, "Stability and security in the Nordic area," *Yearbook of Finnish Foreign Policy 1978*, p. 39.
12. Yuri Komissarov, "The future of a nuclear-weapon-free zone in Northern Europe," *Yearbook of Finnish Foreign Policy 1978*, p. 30.
13. "Storting Debates Foreign Policy," *News of Norway*, Norwegian Information Service, New York 38:1, 23 January 1981, p. 3.
14. John Vinocur, "Norway's Plan for Nuclear-Free Zone Worries Allies," *NYT*, 15 February 1981, p. 3.
15. "Prime Minister on Disarmament," *News of Norway* 38:4, 27 March 1981, p. 20.

Nevertheless, the Norwegian statements lent added impetus to the movement toward a Nordic NWFZ. In June 1981, the Soviets for the first time indicated a willingness not only to guarantee such a zone unilaterally (that is, even in the absence of corresponding guarantees from the Western powers), but also — and this was truly remarkable, given their earlier hardline stance described above — to consider the possibility of ancillary measures applying to adjoining Soviet territory. Thus, Soviet President Brezhnev told a Finnish newspaper that he would "not preclude the possibility of considering the question of some other measures applying to our own territory in the region adjoining the nuclear-free zone in the north of Europe."[16]

Interest in the Nordic NWFZ proposal has remained fairly constant during the period since its revival in the early 1980s, despite the "Whiskey-on-the-Rocks" episode of October 1981 during which a Soviet submarine, believed to be carrying nuclear weapons, ran aground in restricted Swedish waters. Brezhnev's successor Yuri Andropov reiterated the offer of a unilateral guarantee and the application of "certain quite substantial measures" (unspecified) to Soviet territory.[17] Soviet General Nikolai V. Chervov finally indicated at least part of what Moscow had in mind, when he told Swedish television in March 1983 that the Soviet Union was prepared to withdraw its six *Golf*-class ballistic missile submarines from the Baltic as part of a Nordic NWFZ — an offer confirmed by Andropov in June of that year.[18] This particular Soviet initiative distinctly failed to impress many Western observers. The submarines in question were very old, diesel-powered vessels that were not "counted" under the SALT agreements and spent most of their time in port. Some analysts had even speculated that the sole reason for their continued maintenance by the Soviets was in order to be able to trade them off in some future arms control negotiation. Nevertheless, by December 1984, as reported by Olof Palme at a meeting of

16. *Moscow Information* No. 50, 27-29 June 1981, quoted in: Steve Lindberg, "Towards a Nordic nuclear-weapons-free zone," *Yearbook of Finnish Foreign Policy 1980*, Helsinki: Finnish Institute of International Affairs, 1981, p. 38, fn. 42.

17. Soviet Embassy, Ottawa, *News Release* No.69, 11 May 1983, p. 3.

18. "Proposal on the Baltic Sea," *NYT*, 8 March 1983, p. A8; and John F. Burns, "Andropov Offers Atom-Free Baltic," *NYT*, 7 June 1983, p. A14.

Nordic prime ministers, the Nordic NWFZ proposal was supported by majorities in all five of the Nordic Parliaments.[19]

Meanwhile, the zone proposal continued to figure prominently in the security debates in Norway and Denmark, albeit with less success than in Sweden. In Norway, a government White Paper on security and disarmament submitted to the Cabinet on 15 May 1987 warned that unilateral Nordic steps toward the zone "could weaken the security of the Nordic countries and have negative repercussions for the region's stability." It endorsed continued work on the zone, but only "provided that it takes place with the understanding of Norway's allies," and as "part of a broader context so that there will be a positive interplay between various areas." The INF talks and conventional arms reductions in Europe were both mentioned in the latter regard.[20]

Denmark has always appeared to be even less supportive of the Nordic NWFZ concept than Norway. This is at least partly because of the fact that she is involved in an integrated military command with the Federal Republic of Germany (ComBaltAp), giving her a role in the defence of Schleswig-Holstein, in which, unlike the case with Norway, the use of nuclear weapons in the event of war is definitely contemplated. In November 1983 and again in March and May 1984, the Danish Parliament, often at odds with the Government on security issues, passed resolutions demanding that the Government actively pursue the zone proposal.[21] However, a committee of experts within the Danish Foreign Ministry, named after its chairman Peter Dyvig, warned in a report issued in November 1984 that "an isolated Danish rejection, determined in advance, of its willingness to receive nuclear arms under any circumstances — peace, crisis, or war — would create insurmountable problems for allied reinforcement planning." It suggested that

19. *Arms Control Reporter* (*ACR*), January 1985, p. 404.B.34.
20. As reported by Hans Christian Erlandsen, in: "Continued Agreement Surrounding Security Policy," *Oslo Aftenposten*, 16 May 1987, p. 11, in: *Foreign Broadcast Information Service(FBIS) — Western Europe (WE), 29 May 1987*, p. P1.
21. *ACR*, December 1983, p. 404.B.23; and *ACR*, October 1984, pp. 404.B.29-B.30.

the Danish contribution to the further development of the zone concept be limited to "a more detailed analysis of the conditions which must be met if a zone is not to reduce security."[22]

Over the past couple of years, official efforts to further advance the zone have proceeded along two parallel "tracks": 1) by means of intergovernmental consultations; and 2) through interparliamentary activities. A Nordic inter-parliamentary working group, composed of representatives of seventeen different parties, first met in August 1986 in Copenhagen. None of the non-socialist parties of Denmark or Norway had agreed to join and, among the Swedish non-socialist bloc, only the Center Party was represented. On the other hand, all of the Finnish parties and all but one (the Conservative Independence Party) from the Icelandic Parliament took part.[23] A ten-point draft treaty was presented to the media by Danish Social Democratic Party leaders in Copenhagen on 12 March 1987, detailing both the geographic and functional scope of the proposed zone.[24] The final report of the broader group was signed and released by members of Parliament from twelve Nordic parties in Copenhagen on 1 June 1987. It included such matters as geographic and functional scope, NWS guarantees, and "attenuation zones" (the latter being described by the Swedish Center Party's representative as "the zone's most important goal."[25])

The second "track" of active Nordic diplomacy in support of a NWFZ has been the effort to establish a joint working group of governmental experts. It was not until March 1987 that the Nordic foreign ministers, meeting in Reykjavik, succeeded in setting up such a group to "study the prerequisites for establishing a nuclear-free

22. *ACR*, January 1985, p. 404.B.33.

23. Christian Palme, "Denmark As NWFZ: Appoint Group Now," Stockholm *Dagens Nyheter*, 27 August 1986, p. 12, in: *FBIS Worldwide Report — Arms Control*, JPRS-TAC-86-078, 29 September 1986, pp. 70-71.

24. Carl Otto Brix, "Denmark Must Leave NATO Nuclear Group," Copenhagen *Berlingske Tidende*, 13 March 1987, p. 2, in: *FBIS — WE*, 18 March 1987, p. P1; and Alexander Polyukhov, "Hope for Nordic NFZ, Restrictions on NATO Activities," *New Times*, Moscow, No. 13, 6 April 1987, pp. 5-6.

25. Christian Palme, "Thin Final Report on Nuclear-Free Zone," Stockholm *Dagens Nyheter*, 2 June 1987, p. 12, in: *FBIS — WE*, 10 June 1987, p. N1.

zone in Northern Europe," to "form the basis of future political assessments and actions."[26] The first session of the working group was held in late May.[27]

In the meantime, the Soviets had taken a new initiative designed to encourage progress on the zone. Ever since President Brezhnev's stated willingness in 1981 to consider measures affecting Soviet territory, there had been hints that such measures could include a "thinning-out" of intermediate-range nuclear missiles on the Kola Peninsula and other areas of the Soviet Union adjacent to the proposed zone, as called for by the Swedes.[28] In the fall of 1986, the Soviets not only revealed specifically what they had in mind, but went so far as to announce that they had *already put into effect* several measures of the type envisaged. During a visit to Helsinki on 13 November 1986, CPSU Central Committee Secretary Yegor Ligachev announced that the USSR had "already dismantled the launchers for medium-range missiles in the Kola Peninsula and the larger part of the launchers for such missiles in the rest of the territory of the Leningrad and Baltic Military Districts and moved several battalions of operational-tactical missiles out of those districts for redeployment elsewhere." The sole remaining "bargaining chip" presented by Ligachev was a reiteration of the long-standing offer to withdraw ballistic-missile submarines from the Soviet Baltic Fleet, "in the framework of implementing the proposal for a nuclear-free north, . . . if the corresponding countries reach agreement on this issue." There was no indication of whether the Soviets would be prepared to consider additional measures on their own territory (for example, the withdrawal or dismantling of shorter-range tactical nuclear weapons in the area), but it was made clear that "we expect reciprocity" for the measures already taken.[29]

26. As reported by Sergey Astakhov, in: "For a Nuclear-Free North," Moscow *Selskaya Zhizn*, 1 April 1987, p. 3, in: *FBIS Worldwide Report — Arms Control*, JPRS-TAC-87-029, 24 April 1987, p. 116.

27. Yuriy Kuznetsov, "Does the North Need AWACS Aircraft?" Moscow *Pravda*, 28 May 1987, p. 5, in: *FBIS — Soviet Union (SU)*, 5 June 1987, p. H7.

28. See, e.g., *ACR*, June 1983, pp. 404.B.20-21; and *ACR*, January 1985, p. 404.B.30.

29. Moscow TASS in English, 1836 GMT 13 November 1986, in: *FBIS — SU*, 14 November 1986, p. G9.

Reaction to the Soviet announcement was mixed. Finnish leaders described it as a "unilateral encouraging gesture" and "very significant."[30] Swedish Prime Minister Ingvar Carlsson was somewhat more restrained, merely referring to the announcement as "a positive step."[31] Various critics, including the Commander-in-Chief of the Norwegian Armed Forces, General Fredrik Bull-Hansen, charged that the weapons in question had been dismantled four years previously and replaced by longer-range, more accurate missiles based elsewhere in the Soviet Union but still within striking distance of the Nordic countries.[32] In fact, the Soviets had announced as early as 1982 that they were replacing older SS-4 and SS-5 intermediate-range ballistic missiles with new SS-20s.[33] The latter had the range to hit targets within the Nordic zone, as well as elsewhere in Europe, from beyond the Urals — in fact, SS-20s can hit North Norway from eastern Siberia, along the Soviet-Mongolian border.[34] A total of nine SS-5s were deployed on the Kola Peninsula until the early 1980s, but Soviet General Secretary Andropov announced in October 1983 (and this was confirmed by American officials the following month) that the last of the SS-5s in the Soviet arsenal had been scrapped.[35]

Western sources speculated that the "several battalions of operational-tactical missiles" which Ligachev said had been moved out of the Leningrad and Baltic Military Districts were being redeployed as part of a modernization of shorter-range theatre and battlefield nuclear ballistic missiles, with Scuds (range = 160-300

30. Helsinki Domestic Service in Finnish, 1700 GMT 13 November 1986, in: *FBIS — WE*, 14 November 1986, pp. P1-P2; and Helsinki Domestic Service in Finnish, 1030 GMT 15 November 1986, in: *FBIS — WE*, 17 November 1986, p. P1.

31. *Reuters*, 28 November 1986.

32. See, e.g., Moscow TASS International Service in Russian, 1928 GMT 14 November 1986, in: *FBIS — SU*, 18 November 1986, pp. G7-G8.

33. See, e.g., A. Vavilov, "The Key Problem of Our Day," *International Affairs*, Moscow, No. 2, 1982, p. 75.

34. Johan Jørgen Holst, "A Nuclear Weapon-Free Zone in the Nordic Area: Conditions and Options," in: Kari Möttölä (ed.), *Nuclear Weapons and Northern Europe — Problems and Prospects of Arms Control*. Helsinki: Finnish Institute of International Affairs, 1983, p. 10.

35. "Yuri Andropov's Answers to Questions of the Newspaper 'Pravda'," Soviet Embassy, Ottawa, *News Release* No. 143, 27 October 1983, and B. Gwertzman, "U.S. Offers Proposal on Nuclear Missiles to Soviet at Geneva," *NYT*, 15 November 1983, pp. A1 and A15.

km) being replaced by SS-23s (range = 500 km); Frogs (range = 70 km) being replaced by SS-21s (range = 120 km); and SS-12s (range = 900 km) being replaced by SS-22s (equivalent range).[36] It was noted that the Frog-7s and Scud-Bs believed to be deployed on the Kola Peninsula would apparently remain.[37]

According to Swedish analyst Lars Christiansson, there remained about 1,200 Soviet nuclear weapons (presumably excluding the SLBM warheads of the Kola-based Northern Fleet, whose numbers alone exceed this total) in the "immediate vicinity" of the proposed Nordic NWFZ.[38] Another recent study lists among Soviet nuclear weapons "deployed for use in the Nordic area" a total of 569-670 land-based warheads (including shorter-range ballistic missiles, cruise missiles, and artillery shells), 328 dual-purpose, shorter-range missiles aboard the ships of the Soviet Baltic Fleet, and 550 aboard those of the Northern Fleet. Excluded from the estimate were both air-delivered weapons and nuclear mines and torpedoes.[39]

The foregoing narrative should have amply demonstrated that a full-fledged Nordic NWFZ is scarcely lurking around the corner. Even its most enthusiastic and optimistic proponents concede that, if it is to come to fruition at all, it will take many more years of patient analysis, advocacy, consultations and, eventually, actual negotiations between the states concerned. In the meantime, the option for other circumpolar countries of merely assimilating themselves with such a zone simply does not exist.

36. Lars Christiansson, "Soviet Initiative Changes Nothing," Stockholm *Svenska Dagbladet*, 15 November 1986, p. 4, in: *FBIS — WE*, 19 November 1986, p. P3.
37. "Now Look Again," *Economist*, 22 November 1986.
38. Christiansson, *op. cit.* note 36.
39. Tomas Ries, "Nuclear Weapons and the Zone," cited in: *ACR*, March 1986, p. 404.B.43.

THE NORDIC NWFZ: PRACTICAL PROBLEMS

Even if progress towards a Nordic NFWZ continues to be made (and more cynical observers see the creation of the civil servants' working group — undoubtedly the greatest single achievement in this direction so far — as a convenient way of "burying" the issue once and for all), many practical problems are sure to be encountered along the way. These can be summarized under the following general headings: 1) geographic scope; 2) functional scope; 3) "attenuation zones"; 4) negative security assurances; 5) verification arrangements; and 6) linkage with other arms control and disarmament efforts. Each of these will now be considered in turn. The discussion will be based, in the first instance, on five specific and fairly detailed proposals for a zone that have emerged from the debate in recent years. They are: 1) principles adopted by the Nordic Labour Congress in June 1982;[40] 2) a "manifesto" issued in the spring of 1983 by the major peace movements of Denmark, Norway, Sweden, Finland, Iceland, and the Faeroe Islands;[41] 3) a full-scale draft treaty drawn up by the Norwegian official Jens Evensen and first published in 1982;[42] 4) a

40. Steinar Moe, "Labor Movement Backs Nuclear-Arms-Free Zone," Oslo *Arbeiderbladet*, 18 June 1982, p. 6, in: ***FBIS — WE***, 22 June 1982, p. P1.

41. Olafur Ragnar Grimmson, "Nordic nuclear-free options," ***Bulletin of the Atomic Scientists*** 41:6, June-July 1985, p. 27; and Anders Hellebust, "A Nordic Nuclear Weapon-Free Zone: Implications for the North Atlantic," in: ***North Atlantic Network: The Alternative Alliance*** (END Special Report), nd, pp. 55-58.

42. J. Evensen, "The Establishment of Nuclear Weapon-Free Zones in Europe: Proposal on a Treaty Text," in: Sverre Lodgaard and Marek Thee (eds.), ***Nuclear Disengagement in Europe***, London: Taylor and Francis for SIPRI, 1983, pp. 167-189.

speech by Swedish Prime Minister Olof Palme in Helsinki on 1 June 1983;[43] and 5) the final report of the Nordic parliamentarians committee referred to above, signed on 1 June 1987 by deputies from twelve parties, a draft of which was released by the Danish Social Democratic leaders in March 1987.[44]

GEOGRAPHIC SCOPE

From the beginning, a near-consensus has existed among proponents of the zone that it should include, at a minimum, the national territories (including territorial seas and airspace) of Denmark, Finland, Norway, and Sweden. The only exception to this has been the occasional suggestion that, insofar as NATO members Denmark and Norway appear to be the chief stumbling-blocks to the creation of the zone, they might be left out of an initial agreement, which would therefore cover only Finland and Sweden. However, the Soviet Union has made it clear that such a short-term solution is not, in its view, acceptable; and none of the fully-amplified proposals for a Nordic NWFZ has been so restricted. On the other hand, there has been a tendency in recent years to expand the boundaries of the zone to include the national territories of Iceland, the Faeroe Islands, and even Greenland.

For its part, Iceland has insisted, following a unanimous parliamentary resolution on the subject, that any such zone must include the Baltic, Norwegian, and Barents Seas, and stretch all the way from the west coast of Greenland to the Ural Mountains.[45] However, as we have seen, the Soviet Union has made it clear that, while it is willing

43. "Security and Stability in the Nordic Area (Speech by the Prime Minister of Sweden, Olof Palme, to the Paasikivi Society in Helsinki on June 1, 1983)," in: Möttölä (ed.), *op. cit.* note 34, pp. 84-85.

44. Palme, *op. cit.* note 25; details of the draft report are found in: Brix, *op. cit.* note 24; and Polyukhov, *op. cit.* note 24. In only two cases, the Evensen draft and the Palme speech, has the author been able to obtain the full texts of the documents in question, so it must be kept in mind that the following analysis is based to a considerable degree on rather fragmentary reports and second-hand descriptions in the press or journals.

45. *ACR*, January 1986, p. 404.B.39.

to apply certain collateral measures in its own territories adjacent to the zone, the zone itself cannot be extended to include such territories. A similar understanding appears to have been reached regarding the Baltic Sea. Thus, while Sweden (among others) at one time considered that the Baltic would have to fall within the zone per se, it is now understood that any Baltic restrictions will be negotiated apart — since they necessarily involve states other than the Nordic countries — and will be embodied in a separate agreement, albeit one which might be negotiated at the same time as a Nordic NWFZ. Finally, there is widespread agreement that, in view of likely objections from the major maritime powers, other international sea areas cannot be encompassed by the zone either. The Nordic NWFZ would thus differ from the Treaty of Tlatelolco, being more akin in this respect to the Rarotonga Treaty.

The chief problem with extending the zone to include Iceland and Greenland arises from the fact that these countries — unlike the two Scandinavian members of NATO — host American military bases on their territories, and substantial ones at that. It is true that both (and the Faeroe Islands, as well) have declared themselves to be in some sense "nuclear-free." However, the legal effect of Greenland's declaration is in some doubt, given Denmark's continued responsibility for its foreign and defence policies, and the same is true of the Faeroe Islands. While Icelandic ministers have repeatedly stated that nuclear weapons are not to be deployed on their soil under any circumstances, the United States has only said that it would not do so without their permission.[46] In practice, it is difficult if not impossible to imagine preserving the nuclear-free status of the American military base at Keflavik in the event of a war in the North Atlantic, given its role as a linchpin in NATO's anti-submarine warfare efforts.

FUNCTIONAL SCOPE

This heading in fact encompasses a wide range of subsidiary

46. See, e.g., *ACR*, January 1985, p. 404.B.32.

questions, most of which are quite controversial in the Nordic context. One is the definition of a "nuclear weapon" itself — a problem in the Latin American case, where some states seek an exemption for "peaceful nuclear explosive" devices. However, this is not at issue in the Nordic case, where all of the potential members of the zone are parties to the NPT, and hence subscribe to its explicit prohibition of "nuclear weapons *or other nuclear explosive devices*" (emphasis added).

Certain other basic prohibitions of a NWFZ as they would apply to zone members are not in dispute, either: the undertaking not to produce, develop, receive, test, store or deploy nuclear weapons or other nuclear explosive devices, nor to allow other states to make use of national territory within the zone for such purposes. The proposals of the Nordic Labour Congress of 1982 and the Nordic parliamentarians of 1987 also specify that zone members should refrain from training their military personnel in the use of nuclear weapons, but this element is unlikely to prove controversial so long as a state is willing to forego nuclear weapons in both peace and war (as it would have to be in order to join the zone in the first place).

An issue of functional scope, on which there remains some disagreement among the proponents of a Nordic NWFZ, is whether nuclear-weapon *delivery vehicles* should be prohibited. Evensen includes within the scope of prohibitions "any instrument that . . . . has as its main (probable) purpose for its installation the transport or propulsion of [a nuclear] weapon or device."[47] This would appear to include such delivery vehicles as long-range bombers, cruise missiles, ballistic missile submarines, and so on. Neither of the two existing NWFZs extends its prohibitions of the actual nuclear warhead to include dedicated delivery vehicles of this type. Moreover, Evensen's formulation would undoubtedly present problems for the dual-capable (nuclear- and conventionally-armed) vessels or aircraft of NWS which might be transiting or visiting the territory of a zone member, even if not carrying actual weapons on

47. Evensen, *op. cit.* note 42, p. 182.

board, in terms of the ancillary equipment making them nuclear-capable. Interestingly enough, the fullest Soviet statement of their position on the zone, issued by "Yuri Komissarov" back in 1978, does not mention nuclear-weapon delivery vehicles at all, referring only to "warheads, bombs, munitions, grenades, mines, etc. — be they installed in a weapons system or kept in stores or silos."[48] On the other hand, the Soviets have often complained about the presence of Allied dual-capable delivery vehicles within the territories of the Nordic members of NATO as being inconsistent with their self-proclaimed peacetime nuclear-free status.

The functional scope of the prohibitions has been expanded even further by some proponents of the zone. For example, the March 1987 draft of the Nordic parliamentarians would forbid the "setting up within their national boundaries of installations linked in any way with the use of nuclear weapons."[49] This would appear to encompass those involved in intelligence-gathering, navigation, communications, and so on, of which the three Nordic members of NATO — including those which do not permit foreign "bases" on their territory — currently boast many. For example, signals intelligence stations (of which there are reported to be no fewer than eight in Norway, and one in Iceland)[50], by detecting and intercepting radio and radar transmissions, can be used for the targeting of nuclear weapons. Navigation beacons can be critical to the accuracy of SLBMs by precisely identifying their launch-points. Bottom-mounted sonar detection networks can be used for the targeting of enemy submarines, including strategic ballistic missile-carrying vessels. Communications facilities of various kinds can be used for the transmission of firing orders. And so on.

Again, however, such prohibitions go well beyond the scope of existing NWFZ agreements and would undoubtedly be unacceptable to the Western powers. One problem is that the installations in

48. Komissarov, *op. cit.* note 12, p. 30.
49. Polyukhov, *op. cit.* note 24, p. 54.
50. Owen Wilkes, *A Proposal for a Demilitarized Zone in the Arctic*. Waterloo, Ont.: Project Ploughshares *Working Paper* 84-4, October 1984, p. 5.

question are virtually all multi-purpose — being equally, if not more, useful in the context of a purely conventional war, for enhancing peacetime stability by providing early warning of an attack, or even as part of the verification machinery to monitor compliance with existing arms control agreements.

Equally as controversial as dual-capable or multi-purpose installations is the question of transit and port-visit rights of nuclear weapon states. The 1982 proposal of the Nordic Labour Congress includes an outright ban on "docking or transit by warships carrying nuclear arms and on similarly-equipped aircraft flying through Nordic airspace."[51] It does not, however, appear to specify whether such a ban would apply to international sea areas, including straits; or to territorial seas (normally subject to the right of "innocent passage"), as well as internal waters. In the commentary on his draft treaty, Jens Evensen notes that "it would . . . be difficult or impossible for a state to prohibit the innocent passage through its territorial sea or the airspace above such seas," and that "the same applies to the passages into the Baltic." He goes on to suggest that "naval manoeuvres of allied nuclear-armed vessels in the territorial seas of a nuclear weapon-free state, . . . admission to internal waters and harbours, . . . aircraft armed with nuclear warheads using the airspace . . . (with the possible exception of possible innocent passage over the territorial sea)", and overflight by cruise missiles would all be prohibited. Curiously enough, however, he adds that "an occasional courtesy visit of naval vessels that were nuclear armed should not be entirely excluded"(!)[52]

The 1987 report of the Nordic Parliamentarians appears to follow Evensen's proposal quite closely in regard to transit, noting that the zone should not affect traditional rights of passage through international straits or territorial waters, but apply only to internal waters and "port entry." An exception would be made, even here, for the right of nuclear-armed ships to enter ports or drop anchor in emergencies. Similarly, aircraft carrying nuclear weapons would not

51. *ACR*, November 1982, p. 404.B.8.
52. Evensen, *op. cit.* note 42, p. 175.

be permitted to enter territorial airspace and use national airfields, although "special rules to be worked out would allow such aircraft to go through national airspace and touch down in emergencies."[53]

Such provisions regarding transit and port visits would be somewhat more restrictive than those of the existing NWFZ agreements (Tlatelolco being ambiguous and Rarotonga expressly allowing such activities), but would still fail to satisfy the Soviet Union. The latter has insisted, in the past, that transits through territorial waters or port visits of nuclear-armed vessels should be strictly forbidden, while at the same time championing the traditional maritime rights of free passage over the high seas and through international straits. As before, its willingness to extend negative security assurances to zone members might be conditioned in some way on acceptance of this interpretation of "nuclear-free." On the other hand, maintenance of free passage over the high seas and through international straits in the vicinity of the zone remains critical to the Soviet Union, insofar as its Northern Fleet is based on the Kola Peninsula, requiring passage through the area to reach the open ocean, while two-thirds of its ship maintenance and repair facilities are located along the Baltic coast.

For their part, the Western NWS would undoubtedly resist very strongly any attempt to deny the right of zone members to permit the visit of nuclear-armed ships if they wished. The United States has demonstrated how far it is willing to go to defend this particular principle or, to be more precise, the principle of neither confirming nor denying the presence of nuclear weapons on board its vessels, in the case of the South Pacific.

"Attenuation Zones"

As we have seen, the notion of "attenuation zones," or areas adjacent to the NWFZ in which the nuclear weapons of external NWS would be regulated in some way (also referred to as "collateral

53. Polyukhov, *op. cit.* note 24, p. 54.

measures"), is virtually as old as the Nordic NWFZ concept itself. Although first raised by the Scandinavian members of NATO, and only in reference to measures affecting the Soviet Union, it has since become a key condition of Swedish support for the zone and is now envisaged as applying to both superpowers, if not all NWS. The 1983 Nordic Peace Manifesto gave as examples the SS-12s, SS-5s, and *Golf*-class submarines on the Soviet side, and American air- and sea-launched cruise missiles deployed in the Northeast Atlantic on the Western side.[54] The fear of American cruise missiles overflying their territory, and thus compromising their neutrality, was in fact to a considerable extent responsible for the resurgence of support for the Nordic NWFZ concept in Finland and Sweden in the late 1970s and early 1980s.

In the wake of the Soviet announcement of November 1986, discussed above, it might be asked what additional measures of "attenuation" can realistically be expected of the Soviet Union. For one thing, Olof Palme's 1983 speech referred to both land- and sea-based nuclear weapons — thus suggesting that the Soviets would be expected to eliminate at least some of the shorter-range tactical nuclear weapons of the Northern and Baltic Fleets. There are also, of course, the remaining land-based intermediate- and shorter-range ballistic missiles in the Leningrad and Baltic Military Districts that the Soviets announced they had "thinned out." Regulation of air-delivered nuclear weapons (even of comparatively short range) or of nuclear artillery pieces is apparently ruled out by proponents of the zone, on the grounds that they are too highly mobile, and thus that any basing restrictions would be practically meaningless.

The Soviet Union's own intentions and expectations regarding future measures of attenuation are more difficult to fathom. It has announced its willingness to eliminate the six *Golf*-class ballistic missile submarines in the Baltic as soon as the Nordic countries are able to reach agreement on the zone, perhaps even before a treaty is actually signed. This move appears to be a kind of goodwill gesture

54. Hellebust, *op. cit.* note 41, p. 57.

designed to encourage progress towards the zone, but not in itself constituting the "denuclearization" of the Baltic that the Soviets have themselves been calling for. Soviet interest in the latter has apparently been rekindled by recent naval exercises of American and other NATO ships (some presumably armed with nuclear weapons) in the area. The Soviets have long sought to encourage consideration of the Baltic as a "closed sea," from which the naval vessels of outside powers would be excluded. A "nuclear-free" Baltic could be seen as a first step toward this broader goal, but Moscow must realize that concessions far greater than the elimination of the old *Golf*-class submarines will be necessary in order to interest Western states in this idea. An alternative explanation, of course, is that the Soviets are not really serious about the idea of "denuclearizing" the Baltic in any comprehensive sense at all, realizing that this would too greatly impair their own military planning and is unlikely ever to prove acceptable to the West. They may thus be promoting the idea for propaganda purposes alone, perhaps in the hope of eventually succeeding in restraining Western military activity in the area even in the absence of a formal agreement to that effect.

As for the other sea areas in the vicinity of a Nordic NWFZ, proponents of "attenuation zones" affecting the West are being unrealistic in supposing that Soviet moves of the type announced in November 1986 would be sufficient to induce the United States to withdraw its cruise missile-armed submarines, surface ships, and aircraft from the area. Once again, much more far-reaching measures on the Soviet side affecting at least the tactical nuclear weapons of the Northern and Baltic Fleets would likely be required, and even then Western acceptance would by no means be guaranteed. In any case, it is highly doubtful that the Soviets would themselves ever agree to restrictions of such magnitude, given that the missions of the forces in question extend well beyond the confines of the Nordic area.

Negative Security Assurances

That so-called "negative security assurances" (undertakings not

to use, or threaten to use, nuclear weapons against them) should be provided to members of the zone by the outside NWS is not disputed. It has been an element in Finnish proposals ever since 1972, and the Soviets had offered a kind of "guarantee" even earlier. The other Nordic states have been somewhat wary of the idea, however, fearing that an association in this way with the Great Powers might give the latter, or be perceived as having given them, some kind of *droit de regard* over Scandinavian security matters. The NATO members are most concerned about potential Soviet interference in this respect, of course, while Sweden has ruled out any kind of *positive* security guarantee (an undertaking to come to the aid of a threatened state) as being incompatible with its neutral status. The same reasoning has caused it also to reject the idea of differential guarantees for different members of the zone, that would see the United States guaranteeing the nuclear-free status of Norway and Denmark, and the Soviet Union that of Finland. Rather, Sweden insists on the principle of "equal guarantees for the whole area."[55]

The models of the Latin American and South Pacific NWFZs in regard to negative security assurances have been found deficient by most proponents of the Nordic zone. The greatest objection concerns what Evensen terms "certain deplorable reservations" in the past guarantees extended by the NWS, both in the context of the earlier NWFZs and through separate declarations at the UN. Proponents of the Nordic zone appear unanimous on the point that any negative security assurances in their case must be completely *unconditional.* Several have pointed out that assurances whose validity would be cast in doubt as a result of an armed conflict involving a NWS would be virtually worthless in the Nordic context, given that three of the five fully independent states that are potential members of the zone belong to NATO and one other, Finland, is tied to the Soviet Union through its Treaty of Friendship, Co-operation and Mutual Assistance.

A less significant but still potentially divisive issue is whether negative security assurances need be obtained from all of the world's

55. *ACR*, September 1983, p. 404.B.22.

NWS. The greatest challenge, of course, lies in persuading the Soviet Union to extend a truly unconditional guarantee, particularly if — as seems likely — a Nordic zone does not meet its declared standards for NWFZs with respect to transit and port visits; and in obtaining any kind of guarantee whatsoever from the United States (or Britain, for that matter), at least in its current mood. Most proponents of the zone remain steadfast in their insistence on negative security assurances from the two superpowers as a *sine qua non* for its establishment, thus effectively granting Washington a veto power.

VERIFICATION

Verification of whether the non-nuclear weapon states (NNWS) of the zone are complying with the obligation not to acquire an independent nuclear weapons capability should not be a problem, given that all the states concerned are already parties to the NPT and hence subject to IAEA safeguards on their nuclear activities, where applicable. However, verification of the exclusion of nuclear weapons of outside states from the territories of the zone members — particularly if the prohibition extended to all nuclear-related facilities — is another matter. At present, for example, the Nordic members of NATO insist that nuclear weapons are not to be brought into their territories aboard Allied ships and aircraft. But at the same time they, unlike New Zealand, decline to challenge the policy of Allied NWS of refusing to confirm or deny the presence of nuclear weapons on board their vessels. Thus, the degree to which the NNWS' wishes in this regard are actually being respected remains unclear. This would cease to be acceptable under a formal NWFZ arrangement, in which outside NWS were mutually bound by negative security assurances, if that arrangement prohibited the transit or port entry of nuclear-armed vessels and aircraft (as demanded, for example, by the Soviet Union and some other proponents of the zone). Verification without the co-operation of the flag state would be very difficult, if not impossible, to achieve, especially given the ubiquity of multi-purpose and dual-capable weapon delivery systems in the armed forces of the NWS. And that the Western NWS would change their traditional policies for the

sake of any particular NWFZ, or even NWFZs in general, is highly doubtful.

The verification of compliance with any collateral measures applied to international areas or to the national territories of non-member states, under the concept of "attenuation zones," presents equal, if not greater, difficulties. Mixed signals have emanated from the Soviets as to whether they would permit the inspection of activities and/or installations on their own territory, in connection with a Nordic NWFZ.[56]

As in the case of the provision of negative security assurances, the Nordic states have also been concerned about the potential for interference by outside powers under the guise of verifying compliance with the terms of the treaty. However, the Soviet Union recently stated that it does not foresee the need to participate in actual inspections on Nordic territory.[57] In the final analysis, the members of a future Nordic NWFZ will most likely shun any complex verification machinery and rely for the most part on the high degree of mutual trust and confidence that has been built up over many years of consultation and co-operation among them.

LINKAGE

The debate over the linkage of a Nordic NWFZ to a broader European arrangement is not so much a dispute among ardent proponents of the zone, as it is between those proponents and others deliberately seeking to delay, if not to torpedo altogether, the very notion of an independent zone. In his 1983 speech Olof Palme

56. See, e.g., Michael Kjaergard, "A Nuclear-Free Zone Is a Step on the Road Toward a Nuclear-Free World," Copenhagen *Aktuelt*, 29 March 1986, p. 12, in: *FBIS — SU*, 10 April 1986, p. AA14; and Yuri Komissarov, "Two Approaches to Security Problems in Northern Europe," Moscow *Mirovaya Ekonomika i Mezhdunarodnyye Otnosheniya* No. 7, July 1986, in: *FBIS Worldwide Report — Arms Control*, p. 22.

57. Carl Otto Brix, "Auken: The Soviet Union's 'No' to Nuclear Arms is Honestly Meant," Copenhagen *Berlingske Tidende*, 26 March 1987, p. 5, in: *FBIS Worldwide Report — Arms Control*, JPRS-TAC-87-028, 22 April 1987, p. 27.

rejected such linkage, arguing that "progress on the zone issue can in itself make a constructive contribution to efforts for the gradual reduction of the role and number of nuclear weapons in Europe."[58] Nevertheless, in the same sense that there is an unavoidable "linkage" between progress in arms control generally and other world events — even when linkage is not pursued as a deliberate strategy by one or more parties to a negotiation — so there is an inevitable link between the Nordic NWFZ and broader aspects of European arms control. Although the current Social Democratic government in Norway is much more supportive of the zone than was its predecessor, there has been no indication that it will renounce its own long-standing position that a Nordic NWFZ must be part of a broader framework. Insofar as it and the other NATO members among the potential zone states continue to insist on US and Alliance approval of any finalized arrangement, and given that the latter is unlikely to be forthcoming in the absence of fairly spectacular progress in other European (if not global) arms control issues, the consummation of an independent Nordic NWFZ will continue for the foreseeable future to be held hostage to events elsewhere.

This does not mean, however, that work toward a Nordic NWFZ has been completely fruitless. Many supporters of the zone, particularly in Finnish Government circles, stress that the very process of discussion and consultation has succeeded in strengthening the norm against the introduction of nuclear weapons into Northern Europe in time of peace or war, even in the absence of a formal treaty to that effect, as well as serving as a useful forum for the intra-Nordic expression of security concerns generally. For example, it has been pointed out that the current working group of expert officials represents the first time that all the Nordic states have entered into formal consultations among themselves on any security issue.

Some observers suspect that none of the primary "players" in the Nordic NWFZ debate — including the Soviet Union itself — are really interested in achievement of the zone per se, but have other

58. Palme, *op. cit.* note 43, p. 85.

reasons for wanting the debate continued; on the Soviet side, to sow dissension within NATO; among the Nordics themselves, for the ancillary benefits just mentioned. This may be going too far, insofar as it is quite possible to resign oneself to the long-term nature of the enterprise, and in the meantime to lay primary emphasis on the value of the process itself, without thereby necessarily giving up on the ultimate goal of a formally negotiated zone. In addition, it is hard to imagine why the Soviet Union would be opposed to the actual conclusion of an agreement on its own merits, while perhaps, admittedly, remaining unwilling to make any further substantive concessions to help bring it about. Still, above all, it is important to realize that even the most ardent supporters of the zone within official Nordic circles see no likelihood of its being achieved in the near future.

ARCTIC-WIDE NWFZs

Proposals for NWFZs extending beyond the Northern European countries to embrace all of the circumpolar North, or significant portions of it, have also been made in recent years. Such proposals have come from indigenous peoples' organizations, broader-based peace movements, individual peace researchers, and opposition politicians in the circumpolar states. The first such proposal actually dates from the mid-1960s, in the form of an article jointly authored by an American and a Soviet scientist.[59] But most of the interest in an Arctic-wide NWFZ is of much more recent origin. The most persistent exponent of the concept is Canadian peace researcher Hanna Newcombe.[60] It has also aroused much interest in the Inuit Circumpolar Conference, a UN-recognized non-governmental organization (NGO) representing the Inuit of Alaska, Canada, and Greenland. Finally, the concept has begun to play a prominent role in the Canadian debate over nuclear weapons, defence policy, arms control, and Arctic sovereignty, being raised repeatedly in the Parliamentary hearings of 1985-86 on Canada's international relations and the renewal of the NORAD Agreement. In the Canadian context, it has been endorsed by various retired diplomats and generals:[61] by the national New Democratic

59. Alexander Rich and Aleksandr P. Vinogradov, "Arctic Disarmament," *Bulletin of the Atomic Scientists*, November 1964, pp. 22-23; summarized in: *Scientific American*, January 1975, pp. 48-49.

60. See, e.g., Hanna Newcombe, "A Proposal for a Nuclear-Free Zone in the Arctic," *Peace Research* 12:4, October 1980, pp. 175-181; and Newcombe, "A Nuclear-Weapon-Free Zone in the Arctic," *Bulletin of Peace Proposals* 12:3, 1981, pp. 251-258.

61. See, e.g., George Ignatieff, "In Self-Defence," *Maclean's*, 21 April 1980, p. 6; Ignatieff, "An Eight-Point Strategy for Survival," in: Group of 78 *et al.*, *Canada and Common Security: The Assertion of Sanity*. Ottawa, 1987, pp. 5-7; and Leonard V. Johnson, "Toward Global Survival: Alternative Security for Canada," in: *ibid.*, pp. 8-10.

Party;[62] by the then external affairs critic of the Liberal Party (the official opposition), Donald Johnston;[63] by the editors of the leading weekly news magazine and leading daily *Maclean's* and the Toronto *Globe and Mail*, respectively;[64] and by such organizations as the World Federalists of Canada,[65] the Voice of Women,[66] the Conseil québécois de la Paix,[67] the Council of Canadians,[68] and the Group of 78.[69]

While most of the proposals made have been quite vague and unelaborated, a few have been developed in greater detail. Among these, which serve as the basis for the subsequent discussion, are the following: 1) Rich-Vinogradov (1964); 2) Hanna Newcombe (1980 and 1981); 3) Rod Byers (1980);[70] 4) Robert Reford (1981);[71] 5) Owen Wilkes (1984);[72] 6) the Inuit Circumpolar Conference (1983 and 1986); and 7) Oran Young (1986).[73] Before examining the feasibility and desirability of these various proposals, we will first compare them in terms of their geographic and functional scope.

62. Resolution B-17, in: *'87 Convention Resolutions: Resolutions submitted to the 14th Federal NDP Convention, Palais des Congrès, Montréal, March 13-15, 1987*; and Pauline Jewett, in: *House of Commons Debates*, 2 March 1987, p. 3725.

63. "Turner Rejects Liberal MPs' Anti-Cruise Stance," Ottawa *Citizen*, 3 March 1987, p. A3.

64. Kevin Doyle, "A Nuclear-Free North," *Maclean's*, 11 May 1987, p. 2; "In Norway's Defence" (edit.), Toronto *Globe and Mail*, 15 May 1987; and Sheldon E. Gordon, "Is Soviet Threat in Arctic Over-Rated?" Toronto *Globe and Mail*, 9 January 1987, p. A7.

65. Fergus Watt, Executive Director, in: the House of Commons Standing Committee on External Affairs and National Defence, *Minutes of Proceedings and Evidence* (hereafter: *SCEAND*) Issue No. 49, 22 November 1985, p. 7.

66. Donna E. Smyth, *SCEAND*, Issue No. 50, 28 November 1985, p. 57.

67. Ed Sloane, *SCEAND*, Issue No. 48, 21 November 1985, pp. 36-37.

68. W. Kenneth Wardroper, Director, in: the Special Joint Committee of the Senate and of the House of Commons on Canada's International Relations, *Minutes of Proceedings and Evidence* Issue No. 43, 25 February 1986, p. 40.

69. *"To Combine Our Efforts . . .": A Statement on Canadian Foreign Policy*, Stoney Lake, Ontario, September 1985, p. 2.

70. Remarks at a meeting on Arctic Arms Control at the Canadian Institute of International Affairs, Toronto, 15 January 1980.

71. Robert W. Reford, "Our Seat at the Table: A Canadian Menu for Arms Control," *International Journal* 36:3, Summer 1981, esp. pp. 659-665.

72. Wilkes, *op. cit.* note 50.

73. Oran R. Young, "The Militarization of the Arctic: Political Consequences and Prospects for Arms Control," paper prepared for the Conference on "Sovereignty, Security and the Arctic," at York University, Toronto, 8-9 May 1986.

GEOGRAPHIC SCOPE

Rich and Vinogradov proposed that an Arctic NWFZ begin with Alaska and Eastern Siberia, eventually expanding to include Greenland and the remainder of the Arctic, stage-by-stage. Newcombe, by contrast, has argued for a pan-Arctic NWFZ from the very beginning, to include "all areas (land, water, and air space) North of 60° North," with minor adjustments to include Kamchatka, the southernmost parts of Alaska, and all of Norway and Sweden, thus dubbing her proposal the "flexible North of 60° N. plan."[74] In the second version of her proposal, apparently reacting to criticism that such a plan would disproportionately cut into Soviet nuclear weapon deployments given their concentration on the Kola Peninsula, she added that "it would be desirable to make the geographic boundaries somewhat flexible, regardless of geographic latitude, so as to balance the concessions by the Superpowers taking into account their sensitivities from the point of view of global strategy."[75] Nevertheless, she has subsequently criticized others for suggesting that Soviet nuclear facilities on the Kola Peninsula should be exempted from the zone, and made it clear that she would include them, as well as Archangelsk on the White Sea.[76] In her view, while admitting the "many asymmetries in this plan, . . . this should not stop Canada and the Scandinavians from proposing it, just to see what reactions would come from the Superpowers, and what modifications they would like to propose to rectify the asymmetry."[77]

The two other Canadian analysts, Rod Byers and Robert Reford, anticipating a superpower refusal to include portions of their own territories within such a zone, have proposed to confine its geographic scope to the so-called "lesser" Arctic states — Canada, Greenland, Iceland, Norway, Sweden, and Finland. (They have also both endorsed the denuclearization of the Arctic Ocean beyond the

74. Newcombe 1980, *op. cit.* note 60, p. 180.
75. Newcombe 1981, *op. cit.* note 60, p. 257.
76. Hanna Newcombe, "Off the Top: How Canada Can Help in Arctic Disarmament," in: *Canada and the World.* Ottawa: The Group of 78, 1985, pp. 21-22.
77. Hanna Newcombe, "Working Toward The Denuclearization of the Nuclear Powers," mimeo., March 1987, p. 4.

limits of national jurisdiction, but in the context of a broader regime of demilitarization for that area.)

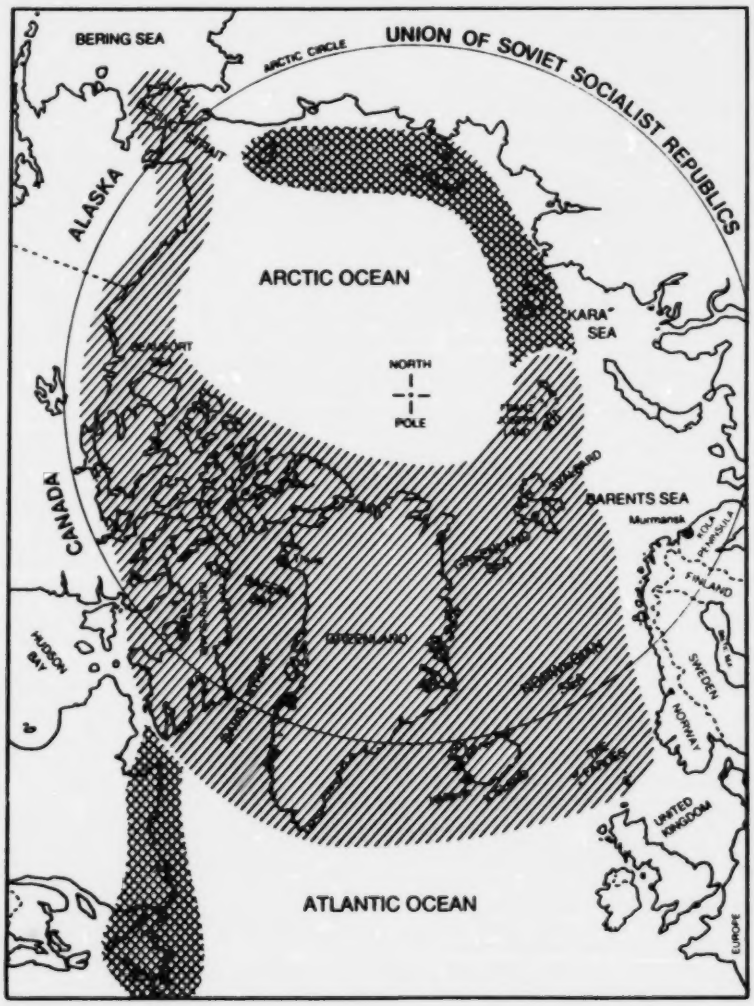
New Zealand peace researcher Owen Wilkes refers to his proposal as a "Circum-Arctic Demilitarised Zone (CADZ)," but it is clear from its content that what he really has in mind is a NWFZ. The geographic scope of Wilkes' zone is quite broad but, curiously enough, does not include the central Polar Basin. It also exempts most of the Arctic territories of the two superpowers (all except the Bering Strait islands, the north coast of Alaska, and Franz Josef Land, as well as possibly the Aleutians and Soviet Arctic islands east of Franz Josef Land). But it includes all of "the sea areas in between the above mentioned lands," presumably — as indicated by the accompanying map (see figure 1) — international, as well as territorial, waters. Wilkes also mentions the possibility of including "some installations lying outside the geographic limits of the zone but exerting their effect within the zone," citing the Ballistic Missile Early Warning System (BMEWS) station at Fylingdales Moor, England, as an example,[78] although here he is referring to the role of strategic warning systems in monitoring the zone, rather than denuclearization per se.

The Third Assembly of the Inuit Circumpolar Conference in Frobisher Bay (Iqaluit), in 1983, resolved that its Executive Council should "lobby the United Nations and various international organizations to encourage members of the United Nations to adopt a policy for a nuclear-free zone in the Arctic."[79] By the time of the 1986 Assembly in Kotzebue, Alaska, the organization had grown considerably more cautious, as well as specific, in outlining precisely what it had in mind. Thus, rather than simply giving a blanket endorsement to an unelaborated Arctic NWFZ, the draft principles for an "Arctic Policy" prepared for the conference by Canadian ICC executive director Mary Simon, who was later to become President of the ICC itself, called for "an in-depth study of the possibility of

78. *Ibid.*, p. 7.

79. "Inuit Circumpolar Conference Resolution 83-01 . . . Stating the Inuit Circumpolar Conference Position on Nuclear Activity in the Arctic and Sub-Arctic Areas," from the files of the Canadian Arctic Resources Committee (CARC), Ottawa.

Figure 1: Owen Wilkes' Proposed "Circum-Arctic Demilitarized Zone".



Circum-Arctic Demilitarized Zone (CADZ)

Possible extension of the CADZ

formally establishing a transnational Arctic nuclear weapon-free zone (NWFZ)."[80]

Regarding geographic scope, the ICC draft noted that "the proposed NWFZ should at least include those land and marine areas within Nation-States that comprise the circumpolar homeland of Inuit from Alaska, Canada, Greenland and the Soviet Union."[81] This formulation would appear to exclude international areas such as the central Polar Basin. The text goes on to imply that certain parts of the Arctic territories of the Superpowers might be exempted from the zone (presumably with an eye to the Kola Peninsula), in stating: "It is important that the proposed boundaries of any NWFZ not be determined in a manner which disproportionately favours one Arctic-rim, nuclear-weapon Nation-State over another (unless other compensating measures are proposed). Due consideration must be given to existing strategic deterrents within each of the Nation-States involved and the NWFZ boundaries recommended must not have the potential effect of threatening regional security interests."[82] Finally, the document, while explicitly stating that "Nation-States cannot establish NWFZ's in areas outside their jurisdiction, particularly on the high seas, international straits and in international air space," goes on to note that "adjacent 'safety' areas could be added under international law, with the consent of other Nation-States outside the NWFZ."[83] It appears at this point to be borrowing heavily from the Nordic NWFZ debate.

The last and most recent of the proposals considered here, by American political scientist Oran Young, appears in its geographic scope to be a variant of the solution proposed earlier by Byers and Reford. It calls on the "lesser Arctic rim states" — Canada, Norway, Denmark, and Iceland — to "formally prohibit the deployment of nuclear weapons (or delivery vehicles capable of carrying nuclear weapons) on their territory or within the EEZs [exclusive economic

80. Inuit Circumpolar Conference, *Draft Principles for an Arctic Policy (Draft for Delegates to ICC General Assembly, Kotzebue, Alaska, July 1986)*, p. 14.
81. *Ibid.*, pp. 14-15.
82. *Ibid.*, p. 15.
83. *Ibid.*

zones] adjacent to their Arctic coasts."[84] As such, it is less expansive than that of Byers and Reford in excluding Sweden and Finland, but more expansive insofar as it encompasses the 200-mile-wide EEZs, and not merely the much narrower territorial waters, of the states that it does include. In addition, while acknowledging that "there is virtually no chance that either the Soviet Union or the United States will agree to any plan limiting its ability to use strategic weapons systems in the Arctic," Young nevertheless proposes "designation of certain marine sanctuaries (for example, areas heavily used by indigenous peoples for subsistence purposes) in which all the Arctic rim states would agree not to station or deploy nuclear weapons."[85]

FUNCTIONAL SCOPE

The functional scope of the Rich-Vinogradov proposal, like its geographic scope, is relatively restricted (except in comparison to the NWFZ agreements which have actually been negotiated for other parts of the world since their article first appeared). Thus, their zone would prohibit "nuclear weapons or delivery vehicles [and] long-range bombers or missiles," but "military installations per se, airfields and bases — and defensive installations such as radar" would be permitted to remain.[86]

Newcombe goes considerably further in her proposal, prohibiting not only "nuclear weapons and their carriers" but also "installations which could be used as auxiliary equipment in the storing or launching of nuclear weapons, such as storage facilities in Norway and Loran-C stations in Norway. . . or port facilities where nuclear missile-carrying submarines could dock or be resupplied or repaired."[87] Only strategic warning systems would be allowed to remain, and even these would have to be transferred to the control of a United Nations agency. More recently, however, Newcombe appears to treat favourably a proposal to turn the Arctic Ocean into

84. Oran Young, *op. cit.* note 73, pp. 34-35.
85. *Ibid.*, pp. 33 and 35.
86. Rich and Vinogradov, *op. cit.* note 59, pp. 22-23.
87. Newcombe, 1980, *op. cit.* note 60, p. 179.

an SSBN sanctuary for the two superpowers (which she attributes to Byers). Although this would appear to be the very antithesis of a NWFZ, and while acknowledging that it "may go against the spirit of our proposal," she argues that "we must be flexible. The important thing is to get some initial agreement."[88] Robert Reford, too, sees an Arctic Ocean SSBN sanctuary as a possible "alternative" to a regime of denuclearization or demilitarization.

Owen Wilkes' CADZ would ban, in addition to nuclear weapons per se, a long list of other "facilities which contribute to nuclear war-fighting capability." This includes *"nuclear storage sites* — facilities where nuclear weapons are stored or which are intended for nuclear storage; *nuclear launch sites* — airfields intended for nuclear configured aircraft or tanker aircraft supporting nuclear aircraft, and ports intended for nuclear weapon-equipped ships . . . ; *nuclear control sites* — communication facilities intended for controlling nuclear weapons or the craft delivering them (for example, the SAC communication stations for B-52 bombers). The Loran-C stations also come into this category; [and] *nuclear test and production sites* — facilities involved in the design, testing or manufacture of nuclear weapons or their delivery systems. Nuclear test zones and missile test ranges are included."[89]

Like Hanna Newcombe, Wilkes considers that strategic warning installations may be of positive benefit to the zone, in terms of monitoring compliance with its prohibitions, as well as more generally enhancing strategic stability by providing early warning of attack to both sides. Also like Newcombe, he calls for the installations in question to be transferred from the control of the Superpowers themselves to a (presumably) less partial authority — but with an interesting twist. Rather than creating a new UN agency, the installations would simply be handed over to the "lesser" states within the zone. Thus, bottom-mounted sonar detection networks in the Greenland-Iceland-United Kingdom (GIUK) gap would be taken over and operated by Iceland; Distant Early Warning (DEW)

88. Newcombe, March 1987, *op. cit.* note 77, p. 4.
89. Wilkes, *op. cit.* note 50, p. 8.

Line radars would be taken over by the states on whose territories they were situated (Canada, Greenland, and Iceland); Airborne Warning and Control System (AWACS)-type aircraft would be operated by nonaligned countries such as Sweden and Finland; and the BMEWS stations in Greenland and Britain would be taken over by their respective host countries, while Canada assumed control of the Alaska station. In each case, the information gathered would be made available to anyone who wanted it.

Some signals intelligence stations in Norway, insofar as Wilkes judges them to "serve U.S. strategic offensive purposes (targeting of installations in the Kola Peninsula) as much as Norwegian defensive purposes," would be closed down; but others located in the middle or western parts of the country would be usefully employed in monitoring the GIUK gap. Wilkes acknowledges that determining precisely which of these systems should be retained and which not "may not be easy." He also foresees the likelihood of US resistance to simply handing over some of its most advanced electronic and data processing technology to foreign powers. However, he suggests that "the threat of sudden and forced nationalisation" might be used to convince Washington not to remove its more sophisticated equipment and thereby reduce the effectiveness of the monitoring systems.[90]

Over time, the Inuit Circumpolar Conference has also been quite specific about the scope of the prohibitions that it envisages for an Arctic NWFZ. Thus, the resolution of its 1983 General Assembly called for a ban not only on nuclear testing, "nuclear devices," and "nuclear dump-sites," but also on the "exploration and exploitation of uranium, thorium, lithium, or other materials related to the nuclear industry in our homeland."[91] In stating its opposition to cruise missile testing in northern Canada, the resolution suggested that nuclear-weapon delivery vehicles might also fall within the scope of its prohibitions.

The "Draft Principles on Peaceful and Safe Uses of the Arctic"

90. *Ibid.*, pp. 9 and 11.
91. Resolution 83-01, *op. cit.* note 79.

prepared for the 1986 Kotzebue Assembly were similarly broad in their scope.[92] However, the "Draft Principles on Arctic and Global Security and Disarmament" prepared for discussion at the same Assembly were not nearly so all-encompassing, and are in fact much closer to the existing NWFZ agreements. In regard to the scope of prohibitions, they merely noted that "development, acquisition or possession of nuclear explosive devices in such zone, for any purpose, would be inconsistent with the concept of a NWFZ."[93]

Both sets of draft principles endorse the continued maintenance of "passive detection systems" in the zone. However, the second set suggests that "co-operative agreements among Nation-States to establish these and other defence arrangements should expressly specify that participation in these activities does not involve any commitment to take part in an active ballistic missile defence arrangement."[94]

Finally, Oran Young's proposal for a NWFZ restricted to the "lesser" Arctic states would prohibit the deployment of both nuclear weapons per se and the delivery vehicles "capable of carrying" them[95], thus going beyond the existing NWFZ agreements, but not so far as to prohibit other elements of the nuclear weapons infrastructure. Young also calls for a separate agreement prohibiting the disposal of radioactive wastes in the Arctic.

A particular aspect of the zone's functional scope, to which several of the authors considered here have devoted some attention, is the question of transit rights — perhaps not surprisingly, given the predominantly maritime nature of the Arctic environment. In the first version of Hanna Newcombe's proposal, while acknowledging that a ban on the transit of submarines "in the open ocean space and underneath the ice" would likely be resisted by the Superpowers (especially the Soviet Union), as well as raising difficult verification problems, she nevertheless states that such transit "should be"

92. UICC, *op. cit.* note 80, p. 10.
93. *Ibid.*, p. 15.
94. *Ibid.*, p. 17.
95. Young, *op. cit.* note 73, p. 34.

forbidden under the treaty.[96] In her second version, she once again notes the verification problem as well as the disproportionate impact of such a ban on the Soviet Union, given that "it would make it impossible for their submarines to get from their Northern ports into Southern waters." This time she concludes that "the transit of vessels carrying nuclear weapons through the Arctic Ocean or under its ice should probably be permitted."[97] Yet nowhere does she attempt to reconcile this with the fact that her proposal would prohibit the very basing of such submarines (and other nuclear-capable vessels) in northern ports in the first place! A February 1987 paper by Newcombe reverts to her initial preference in noting that "the rules for a new NWFZ exclude not only emplacement of nuclear weapons in these territories . . . , but also transit including by sea or in airspace."[98]

For his part, Byers suggests, in regard to an Arctic Ocean "peace zone," that the transit of nuclear weapons through both ocean areas and air space would probably have to be permitted. As for his proposed NWFZ limited to the territories of the "lesser" Arctic states, he has agreed that the Soviet Union would have to be granted transit rights through territorial waters, allowing movement into the Barents Sea.[99]

Owen Wilkes begins his discussion of the subject by stating bluntly that the CADZ would include a total ban on the transit of nuclear weapons. However, he almost immediately backs away from this position, noting that a transit ban "might be more difficult" than one on deployment, "since both the U.S. and the Soviet Union are opposed on principle to any limitations on their use of international waters or air space." He continues: "But certainly transit could be banned within the territories of the independent zone states. In other words, warships and aircraft of the nuclear powers would be banned

96. Newcombe, 1980, *op. cit.* note 60, p. 180.
97. Newcombe, 1981, *op. cit.* note 60, p. 255.
98. Hanna Newcombe, "A Nuclear Free Zone in the Arctic," paper for the Forum of Scientists on "The Staged Elimination of Nuclear Weapons," Moscow, 14-16 February 1987, p. 1.
99. Byers, *op. cit.* note 70.

from using zone ports or airfields unless assurances were given that no nuclear weapons were on board."[100] Thus, he appears to have conceded that a ban on transit through international waters would not be feasible. Yet later on in his paper he refers repeatedly to the "ban on transit of nuclear weapons across the zone" necessary to create the "barrier between the two superpowers" that he considers to be "the most important function of the CADZ."[101] Later still, he asserts that the "rights of innocent passage for Soviet submarines traveling on the surface under transfer between the northern fleet and the Black Sea or Baltic fleets would be easy to arrange."[102] It seems difficult, if not impossible, to reconcile this with the "ban on transit of nuclear weapons across the zone," unless the "innocent passage" to which he refers is restricted to those ocean areas at the fringes of the zone and apparently not covered by it, according to the accompanying map (see figure 1), such as the waters off the coast of Norway and the UK. But what does this do to the supposedly impenetrable "barrier" that the zone is said to have created, to his claim later on that the zone would have caused the Soviet Union to lose its military access to the North Atlantic, and the United States its access to the Norwegian Sea?[103] As the latter statements suggest, Wilkes is concerned with more than simply the prevention of submarine transit through the zone. As he puts it, "flights of bombers, strategic reconnaissance aircraft, cruise missiles and maybe other air and seacraft would [also] be banned." In fact, he goes so far as to proclaim that "in principle, ballistic missile overflights would be banned" as well![104]

Finally, the only mention of the transit issue in the proposals of the Inuit Circumpolar Conference — and an indirect one at that — is the draft principle of 1986 stating that "Nation-States cannot establish NWFZ's in areas outside their jurisdiction, particularly on the high seas, international straits and in international air space."[105] While

100. Wilkes, *op. cit.* note 50, p. 8.
101. *Ibid.*
102. *Ibid.*, p. 9.
103. *Ibid.*, p. 10.
104. *Ibid.*, p. 9.
105. ICC, *op. cit.* note 80, p. 15.

saying nothing about transit rights through territorial waters (or port visits, for that matter), this would appear to rule out the prohibition of the transit of nuclear weapons through international areas adjoining the zone, except with the consent of the NWS, which is extremely unlikely to be forthcoming.

PROSPECTS OF AN ARCTIC-WIDE NWFZ

The chief stumbling-block to an Arctic-wide NWFZ remains the crucial role of the area in the nuclear strategies of both superpowers — a role which is almost certain to increase in the future. Any expectation that the Soviet Union would totally dismantle its enormous complex of nuclear weapons and related infrastructure in its own Arctic territories (including both the Kola Peninsula and the principal SSBN base of the Pacific Fleet, at Petropavlovsk on the Kamchatka Peninsula), and forego the deployment of its SSBNs in Arctic waters outside of its own territory, in the absence of anything short of general and complete nuclear disarmament, is sheer fantasy. To expect the United States and its Western allies to exempt their Arctic territories from any role whatsoever in their own nuclear weapons infrastructure is almost equally fanciful. While it is true that the actual deployment of nuclear weapons in Alaska is quite limited (Arkin and Fieldhouse cite only some 70 nuclear depth bombs, said to be stored at the Adak Island Naval Station in the Aleutians), ranking it twenty-fifth among American states in this regard, that state ranks second, with no fewer than 42 separate facilities, in terms of the nuclear infrastructure as defined by these same two authors.[106] Hence it is not at all clear that, as suggested by some, the United

106. Arkin and Fieldhouse define the "nuclear infrastructure" as follows: "nuclear forces; decisionmaking centers; research and development facilities; nuclear testing and training sites; surveillance facilities; command, control and communications facilities; and scientific or electronic installations that provide peacetime or wartime support for the nuclear forces (weather, navigation, radar and optical tracking, and civil defense)," William M. Arkin and Richard W. Fieldhouse, *Nuclear Battlefields: Global Links in the Arms Race*. Cambridge, MA: Ballinger, 1985, p. 169. Most of the Alaska-based facilities have to do with aerial and anti-submarine surveillance, nuclear test detection, communications, navigation, and early warning. For details, see: *ibid.*, pp. 172-74.

States would be willing to "trade" its Alaskan facilities for anything less than the total denuclearization of the Soviet Arctic.

As for the United States' Arctic allies, for them to completely sever their connection with the nuclear weapons infrastructure of their superpower patron, given the dual- or multi-purpose nature of so much of the technology and facilities concerned, would be equivalent to cutting all of their defence links and substituting a policy of nonalignment for one of alliance. Neither can any easy distinction be made between support facilities, useful for a nuclear first strike or a nuclear war-fighting strategy, and those necessary for the prosecution of a second strike, purely retaliatory attack on which the precepts of "mutual assured destruction" are based, or even, in some cases, for providing the kind of early warning in peacetime that is almost universally adjudged to be stabilizing. For example, facilities designed to communicate attack orders to long-range bomber aircraft will be equally as necessary for a second, as for a first, strike. Conversely, radars that help stabilize deterrence by providing early warning of a first strike, and so dissuading a potential adversary from attacking in the first place, can also be used in support of such a strike, by helping degrade the effectiveness of a victim's retaliatory response.

Any less comprehensive NWFZ involving only the non-superpower Arctic states, as proposed by Byers, Reford, and Young, must surely await the achievement of a consensus among the Northern European states themselves. At this point there has been absolutely no indication that the latter would welcome into their already difficult deliberations the intrusion of the sole remaining Arctic NNWS, Canada, given the added complications for a Nordic NWFZ that that would entail. This, of course, does not rule out the option of individual, unilateral action by the states concerned — a subject which falls outside the bounds of this paper, but is certainly worthy of further study.

The idea of taking strategic warning and other nuclear-related but relatively benign installations out of the hands of the superpowers (in practice, in virtually every case, away from the United States), as

raised by Hanna Newcombe and Owen Wilkes, for example, is an intriguing but no doubt impractical one. Neither superpower would voluntarily relinquish control over such technologically sophisticated and militarily sensitive systems. Any effort to create a new UN agency is bound to be resisted on principle. Wilkes' proposal of threatened nationalization by the host countries seems a sure recipe for chaos, and strongly implies that those countries (including Britain!) have chosen a neutralist or nonaligned path in their defence relations generally.

Finally, there is the problem of verification, particularly of underwater or under-ice activity within the zone, as recognized by some proponents of the idea. It is a fact that many of the same systems used in nuclear war-fighting — bottom-mounted sonar detection networks, for example — would also be necessary for monitoring compliance with the zone. If we rule out as unrealistic the possibility of these simply being turned over to a UN agency or some other neutral party, we are left with a difficult problem — quite apart from the likelihood that these systems are not yet fully adequate to do the job. But more importantly, the issue of Arctic submarine deployments raises a challenge to the very *desirability* of an Arctic NWFZ. *If* a secure second-strike capability is to be maintained by both sides, in the interests of mutual deterrence and hence strategic stability, then perhaps the Arctic Ocean is an ideal place — with its natural protective cover and inhospitable ASW conditions — for the SLBM fleets of both sides (and perhaps of the "lesser" NWS, as well) to hide and thus remain secure. As noted earlier, even Hanna Newcombe, one of the strongest proponents of an Arctic NWFZ, appears to see some merit in this idea, though without apparently acknowledging that this would contradict the very notion of a NWFZ.

In sum, the prospects of an Arctic-wide NWFZ are so dim as to suggest that efforts should be focused on other means of enhancing peace and stability in the Arctic region — not necessarily giving up the search for arms control agreements altogether, but, rather, investigating more fully the possibilities of more modest measures of restraint.

DEMILITARIZED ZONES

The conclusion just reached in regard to Arctic-wide NWFZs would seem to suggest that little attention need be paid to the subject of demilitarized zones, insofar as they seek to restrict military activity in a given region even more comprehensively. Nevertheless, numerous proposals for such comprehensive measures for the Arctic have been made in the past, and deserve mention. More importantly, proposals for a *partial* demilitarization of the region, or large parts of it, have also been made and offer at least some promise of proving negotiable in the not-too-distant future.

The first proposal for comprehensive Arctic demilitarization appears to have been that of the first Inuit Circumpolar Conference General Assembly in Barrow, Alaska, in June 1977. Resolution 77-11 of that conference, on the "Peaceful and Safe Uses of the Arctic Circumpolar Zone," resolved to prohibit "any measure of a military nature such as the establishment of military bases and fortifications, the carrying out of military maneuvers, and the testing of any type of weapon, and/or the disposition of any type of chemical, biological or nuclear waste, or other waste."[107] As we have seen, subsequent Assemblies of the ICC have focused more narrowly on the concept of a NWFZ. Nevertheless, many Inuit leaders continue to speak of complete demilitarization as their ultimate goal. This was reflected in the final operative paragraph of Resolution 86-26 on "Militarization of the Arctic", adopted by the Fourth General

107. "Inuit Circumpolar Conference Resolution ICC 77-11, as amended: Peaceful and Safe Uses of the Arctic Circumpolar Zone," from the files of CARC, Ottawa.

Assembly in Kotzebue on 3 August 1986, by which the Conference resolved that "through its policies and actions, the Inuit Circumpolar Conference continue to foster international co-operation for peaceful purposes so as to eliminate any perceived need for Arctic militarization."[108]

Another early proposal for comprehensive demilitarization of the Arctic came in March 1980 from the Peace Union of Finland, which proposed "that the whole area north of the Northern polar circle be declared as an international area of peace, which should be demilitarized and brought to a nuclear free zone."[109] A proposal for demilitarization somewhat narrower in its geographic scope, yet still highly ambitious, was that of the Icelandic People's Alliance Party in 1977. It envisaged the prohibition of all military activities in the area between the 55th and 70th parallels stretching from the east coast of Canada to the Russo-Finnish border, and including 1) "all naval and other military manoeuvres," 2) "transportation, acquisition and production of all nuclear weapons," and 3) "all group sailing and group flights of military ships and aircraft."[110]

Finally, the Canadian disarmament group, Veterans Against Nuclear Arms, in January 1987 called for Canada to "negotiate with other northern nations to establish a circumpolar Demilitarized Zone north of 70° N.," such a zone to be "watched and patrolled by an agreed and shared program of surveillance and verification."[111] The choice of the 70th parallel for the southernmost boundary of the zone is an interesting one in that it would exclude the Kola Peninsula, thus meeting the objection that the Soviet Union could not reasonably be

108. *Inuit Circumpolar Conference Fourth General Assembly (July 28 — August 3, 1986), Kotzebue, Alaska: Resolutions and Workshop Reports*, p. 33.

109. Written communication from the Office of the Adviser on Disarmament and Arms Control Affairs, Canadian Department of External Affairs, Ottawa, 1 April 1980.

110. Thordur Ingvi Gudmundsson, "Nuclear-Free Zones and Peace Zones: Present Situation and Proposed Zones in Northern Part of Europe: Some Icelandic Perspectives," unpublished paper, Queen's University Centre for International Relations, Kingston, Ontario, March 1979, pp. 13-18.

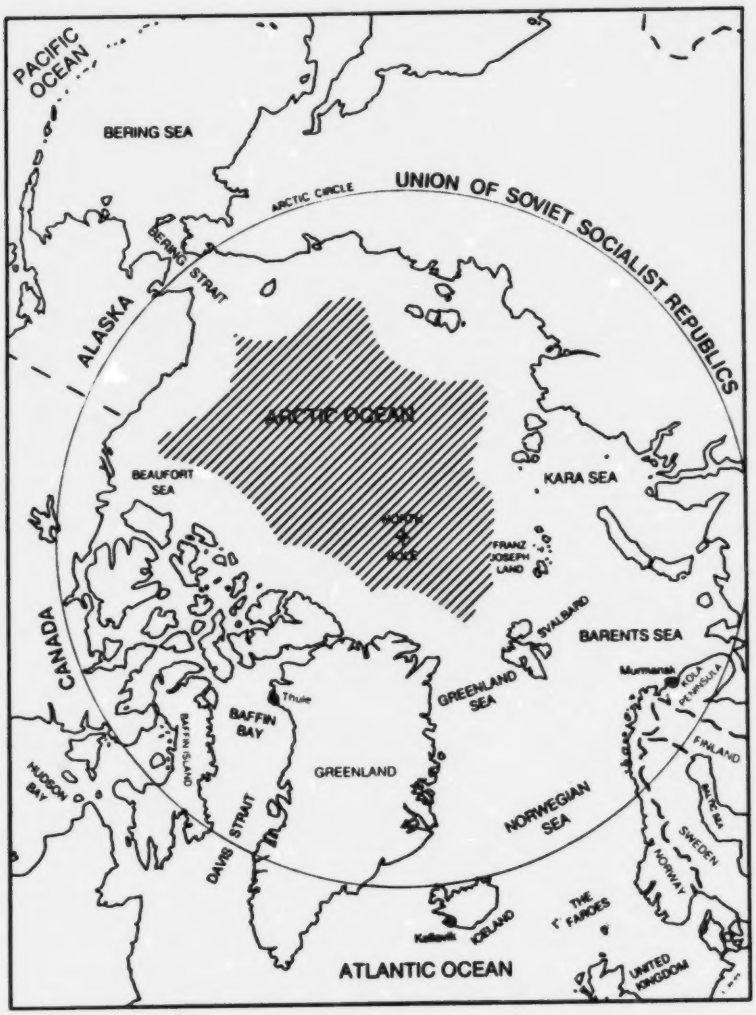
111. Veterans Against Nuclear Arms, *Towards A World Without War: Next Steps In Canadian Defence Policy (A Report of the Defence Research and Education Centre)*, Halifax, January 1987, pp. 9 and 14.

expected to divest itself of its military installations there. The zone would encompass most of the northern coast of the Soviet Union, including all of the northern marginal seas (except the extreme southernmost portion of the Barents Sea); most of the north coast of Alaska; and most of the Canadian Arctic Archipelago (except for the southernmost half of Baffin Island); and would cut Greenland in half (with the large American base at Thule falling within the zone). While not directly affecting the Soviet naval bases on the Kola, the zone would, however, effectively prohibit the egress of the Northern Fleet into the open Atlantic, since Norway extends northward beyond the 70th parallel, or even along the northern sea route to the Soviet Far East, unless exceptions were made for transit passage. Even were such exceptions made, however, the zone would still presumably preclude Soviet deployment of SSBNs in its northern "bastions," currently its preferred method of protecting its sea-based deterrent (which enhances strategic stability generally).

In general, of course, any scheme of comprehensive demilitarization encompassing the territories of nation-states within the Arctic region has even less chance of being realized than does a NWFZ covering the same area. However, a more promising proposal has been made by Canadian political scientist Franklyn Griffiths, for a partial demilitarization of that portion of the Arctic Ocean lying beyond the limits of national jurisdiction. Reasoning that any prohibition of overflights by military aircraft, or under-ice activity by nuclear-powered submarines, is certain to be rejected by both Superpowers, Griffiths nevertheless proposed a treaty demilitarizing the ice and surface waters of the Polar Basin outside the 200-mile exclusive economic zones of the circumpolar states (see figure 2).[112] The present author has previously argued in support of Griffiths' plan, with the suggestion that its geographic scope be expanded somewhat to include the seabed, ice and surface waters outside a narrower twelve-mile coastal zone. This would be in keeping with the 1971 Seabed Treaty which "denuclearizes" the entire seabed

112. Franklyn Griffiths, *A Northern Foreign Policy*. Toronto: Canadian Institute of International Affairs, *Wellesley Papers* 7, 1979.

Figure 2: Franklyn Griffith's Proposal for Partial Demilitarization of the Polar Basin



Limit of 200-mile economic zone enclosing the Polar Basin

beyond twelve miles.[113] This modified proposal was included among the recommendations of a working group of the Canadian Institute of International Affairs for Canadian action at the Second UN Special Session on Disarmament in 1982.[114]

Griffiths himself appears to have lost interest in the idea in recent years, arguing that the most that can be hoped for under current conditions is a greater degree of scientific co-operation among circumpolar states, leading eventually, perhaps, to some kind of arms control agreement along the lines of the Antarctic model. However, the basic logic of his proposal remains valid: to circumscribe the scope of military activities in the area at their current level; to prevent any future military activities of a more "exotic" nature as yet unforeseen; and generally to improve political relations among the circumpolar states, so as to facilitate co-operation in other spheres such as scientific research.

While little, if any, official interest in the proposal was displayed at the time it was made, subsequent events suggest that now may be a good time to resurrect it. In particular, the likelihood of ASW activities in the central Polar Basin making use of the ice and surface waters appears to have increased substantially since the time of Griffiths' initial proposal, concomitant with the heightened attention being paid to submarine operations under the ice. For example, Major General Edward B. Atkeson, formerly national intelligence officer for general forces planning at Central Intelligence Agency (CIA) headquarters, has recently proposed the creation of a helicopter-borne ASW force which would land on the ice, detect the presence of submarines through a variety of sonar, infrared, and magnetic anomaly devices, and then attack them using a homing torpedo dropped through natural openings or man-made holes in the ice. He adds that, due to the harsh environmental conditions, "provision must be made for small temporary bases, somewhat like

113. Purver, *op. cit.* note 3, pp. 130-137.

114. *The Other Road to Security: Canada and Disarmament.* Toronto: Canadian Institute of International Affairs, 1982, pp. 18-19.

the research stations which the United States and the Soviet Union have maintained on the ice for years."[115]

The US Defense Advanced Research Projects Agency (DARPA) has also been developing sensors that, once placed on the ice pack, would communicate submarine surveillance data via a specially designed satellite (the experimental version of which is known as the "Glomr") to ships or ground stations.[116] Soviet nuclear-powered icebreakers have reached the North Pole on two occasions in recent years, and many Arctic and icebreaking specialists predict that regular transits of the central Polar Basin by a variety of icebreaking vessels is a likely prospect for the future; some claim that it can be done with today's technology. Eero Makinen, the President of Wartsila Arctic Inc., the Canadian subsidiary of the world's leading builder of icebreakers, has suggested that the introduction of surface warships in the central Arctic is probably inevitable once commercial activity increases. As he puts it: "Although [such ships] are of no real use to anybody, I cannot foresee the Arctic Seas with heavy commercial activities without the existence of naval fleets."[117]

Finally, the use of hovercraft (surface-effect vehicles, or SEVs) for military missions in the Arctic has long been contemplated. A DARPA study, conducted during the early 1970s at a cost of over $5 million, suggested no fewer than 37 individual military applications of such vehicles in the Arctic, ranging from armoured reconnaissance and scout vehicles to a mobile intercontinental ballistic missile platform. Preliminary designs were completed for three SEVs ranging in size from 36 to 453 metric tons, capable of carrying loads of 27 and 90 tons, respectively, over 2.4- to -3-m ice ridges, pack ice, and tundra at cruising speeds of 60 knots.[118] More recently, it was

115. Atkeson, "Arctic Could Be a Hot Spot in Future Conflicts," *Army*, January 1986, p. 14.
116. See: "Arctic ASW: Sub Hunting Beneath the Ice," *High Technology*, July 1985; "Relay Satellite Launch," *Aviation Week and Space Technology*, 28 October 1985, p. 20; and Hamlin Caldwell, "Arctic Submarine Warfare," *Submarine Review*, July 1983, pp. 11-12.
117. Makinen, "Overview of Arctic Operations in East and West," unpublished paper, January 1984, p. 12.
118. See: N. Ray Sumner, Jr., and Raymond D. Manners, "Arctic Surface Effect Vehicles," *Arctic Bulletin* 2:7, 1975, p. 33; "ARPA," *Arctic Bulletin* 1, Winter 1974, p. 133; and "Advanced Research Projects Agency," *Arctic Bulletin* 1, 1975, p. 258.

reported in 1984 that a study undertaken during the previous year envisioned development of an "Arctic hovercraft" to "carry out a variety of missions, including anti-submarine warfare, anti-surface warfare against opposing hovercraft, logistical support for the Navy's submarines, and environmental monitoring."[119] The same source noted that the Soviet Union already had some 10,000 hovercraft operational in Siberia. Most of these, presumably, are for civil rather than military applications. However, the latest edition of the International Institute for Strategic Studies' *Military Balance* lists 74 surface-effect ships in the Soviet Navy's inventory,[120] while the latest such vessel — sighted in the southeast Baltic in July 1986 and codenamed "Pomornik" — has an estimated displacement of 350 tons and a top speed of 50-60 knots.[121]

All of these developments and prospective developments suggest that military use of the ice and surface waters of the central Polar Basin, especially for ASW, may not be as far-fetched as once thought, and that their demilitarization could thus have real value as a preventative measure of arms control. Its primary effect, of course, would be to hamper anti-submarine warfare operations in the area, confining them to the water column and the airspace above the zone, the use of which would in any event be far more restricted by ice cover. Such a measure would thus dovetail nicely with the proposal for an SSBN sanctuary referred to earlier. Most of the activity in question should be readily observable by the so-called national technical means (NTM) of verification already employed by most of the circumpolar states. As proposed by Griffiths, this could be supplemented by provisions for the mutual inspection of Arctic drift stations and other activities of the states parties, following the precedent of the 1959 Antarctic Treaty.

119. Jan S. Breemer, "Battleground North: The U.S. Navy Plans for a Different Type of Cold War," *Sea Power*, August 1984, p. 26.

120. IISS, *The Military Balance 1986-1987*. London, 1986, p. 40.

121. "IDR analyses latest Soviet air-cushion vehicle," *International Defense Review* 9/1986, p. 1203.

CONFIDENCE-BUILDING MEASURES

The term "confidence-building measure" (CBM) lends itself to many different interpretations. As used here, it refers primarily to measures affecting the *employment* of military forces, especially in peacetime, circumscribing their operations rather than actually reducing or doing away with them altogether. CBMs in this context fall into two principal categories: 1) the type of measures negotiated at the Conference on Security and Co-operation in Europe (CSCE) in the mid-1970s and since, which provide for advance notification and mutual observation of military exercises and movements, and may also involve restrictions on the frequency and/or size of such activities (including their prohibition in certain areas or beyond a certain threshold); and 2) so-called "strategic CBMs", such as those agreed to between the superpowers in the course of the SALT and START negotiations, including the exchange of data regarding their strategic forces, prior notification of certain ballistic missile test launches, and so forth; an earlier instance was the "Hot Line" establishing a direct communications link between the superpowers' respective capitals.

Arctic territories within Europe are already subject to the provisions of those CBMs now in force. Thus, for example, the Soviet Arctic as far east as the Ural Mountains has fallen within the scope of CSCE confidence-building measures, as a result of the Stockholm Agreement of 1986. More far-reaching measures of this type have long been proposed for the vicinity of the Norwegian-Soviet border, as well as for naval activities in the strategically critical Norwegian Sea area, the site of massive naval exercises by both sides in the

recent past.[122] The present Nordic governments, as well as the government of the Soviet Union, have shown increasing interest in such proposals over the past year or so, suggesting that they may be feasible within the foreseeable future. As recently as Mr. Gorbachev's July 1987 interview with the Indonesian newspaper, *Merdeka*, the Soviets proposed analogous measures for the North Pacific, presumably including its "Arctic" waters as well.[123] There appears to be less scope for such measures in other parts of the Arctic, however, such as the Polar Basin, where military operations are much less extensive and frequent and more covert, opposing forces do not generally come into such close contact with one another, and the opportunity for political intimidation of smaller states by means of peacetime military activity — the prevention of which is a prime goal of the CSCE-type measures — is not present.

There may well be scope in such regions for CBMs of the second type, however. The Soviet Union has repeatedly proposed such measures as restrictions on the operating areas of strategic missile-carrying submarines and heavy bombers. For example, the "Memorandum of the Soviet Government Concerning Urgent Measures to Stop the Arms Race and Achieve Disarmament," submitted to the UN in July 1968, called for the "immediate prohibition of flights by bomber aircraft carrying nuclear weapons beyond national frontiers" and the "cessation of patrols by missile-carrying submarines with nuclear missiles on board in areas where the borders of parties to such an agreement are within range of such missiles."[124] Such proposals were raised again by the Soviets during the early part of the

122. See, e.g.: Johan Jørgen Holst, "Arms Limiting and Force Adjusting Arrangements in the Northern Cap Area," *Cooperation and Conflict* 7, 1972, pp. 113-120; and Holst, "Prospects for Conflict Management and Arms Control in the North Atlantic," in: Christoph Bertram and Holst (eds.), *New Strategic Factors in the North Atlantic*. Oslo: Universitetsforlaget, 1977, pp. 133-138.

123. "Answers by M.S. Gorbachev to the Questions of the Indonesian Newspaper *Merdeka*," Soviet Embassy, Ottawa, *Press Bulletin* No. 113, 24 July 1987, pp. 3-4.

124. A/7134, 8 July 1968, reprinted in: US Arms Control and Disarmament Agency, *Documents on Disarmament, 1968*. Washington: US Government Printing Office, September 1969, p. 468.

SALT I negotiations, being dropped "only when it became clear that the United States was adamant against them."[125]

More recent Soviet proposals along these lines have not specified that SSBNs be moved back beyond the range of their missiles. For example, President Brezhnev in March 1982 proposed simply that the "missile submarines of the two sides should be removed from their present extensive combat patrol areas, that their cruises should be restricted by limits mutually agreed upon."[126] Identical language was used in the Memorandum entitled "Averting the Growing Nuclear Threat and Curbing the Arms Race," submitted by the Soviet Union to the Second Special Session of the UN General Assembly on Disarmament (UNSSOD II) later that year.[127]

In revealing the CBMs actually proposed to the United States during the START talks of that year, a *Pravda* editorial dropped any mention of the restricted SSBN patrol zones, but did specify that the Soviets had proposed "to ban the flights of heavy bombers . . . of one side in agreed zones adjoining the territory of the other side"[128] — thus retreating considerably from the earlier (and much less negotiable) proposal to confine such aircraft exclusively to their own national airspace. This new Soviet proposal, elsewhere described as a "ban on close approaches by bombers to each other's airspace," was later cited in American press reports as well.[129]

SUBMARINE STAND-OFF ZONES

Despite the fact that proposals of this kind have been uniformly

125. Raymond L. Garthoff, "The Accidents Measures Agreement," in: John Borawski (ed.), *Avoiding War in the Nuclear Age: Confidence-Building Measures for Crisis Stability*. Boulder: Westview, 1986, p. 61.
126. "Excerpts From Remarks By Brezhnev on Missiles," *NYT*, 17 March 1982, p. A6.
127. A/S-12/PV.12, p. 32.
128. "The USSR and the USA: Two Approaches to the Strategic Arms Limitation and Reduction Talks," Supplement to *Moscow News*, No. 2, 9 January 1983, p. 6.
129. "US and Soviet Seek to Prevent a Surprise Attack," *NYT*, 8 December 1983, p. A6; see also the article by the chief American delegate in the special working group on CBMs established at the START talks in late 1983, Michael E. Mobbs, "CBMs for Stabilizing the Strategic Nuclear Competition," in: Borawski (ed.), *op. cit.* note 125, p. 152.

rejected by Washington in the past, a good case can be made that they would be in the mutual interests of both sides. For example, as concern has grown in the West in recent years about the vulnerability of American strategic command, control, communications and intelligence (C^3I) facilities to surprise attack, especially by Soviet SSBNS close offshore, many defence analysts have proposed that such "forward basing" be prohibited. The United States is particularly vulnerable to attack from the sea, given the close proximity of so much of its population and industry, as well as its national capital, to the coast (a much higher proportion than in the case of the Soviet Union), together with the scale of the Soviet submarine-building programme which far outstrips that of the US.

Richard Ned Lebow estimates that "fully half of the four hundred primary and secondary C^3I targets in the United States could be struck within five to eight minutes by missiles fired from offshore Soviet submarines on routine patrol," while "C^3I could be disrupted even sooner by EMP [electro-magnetic pulse] produced by SLBMs detonated at high altitude during the upward portion of their trajectories."[130] As for the National Command Authority (NCA), according to Lebow "the White House, the Pentagon, and Andrews Air Force Base in suburban Maryland could all be destroyed with fewer than five minutes warning by missiles fired from an offshore Soviet submarine."[131] Nor do the "fast-flying" SLBMs represent the only danger. The development of long-range submarine-launched cruise missiles by both superpowers has aggravated the problem, by transforming every submarine into a potential strategic weapons platform. Bruce Blair has pointed out that cruise missiles, while much slower than ballistic missiles, are also much less susceptible to detection and could therefore be used in a "decapitation attack" (against C^3I installations), especially if launched from delivery systems in close proximity to their targets. In his view, such missiles "represent the most serious emerging threat to U.S. C^3I systems."[132]

130. *Nuclear Crisis Management: A Dangerous Illusion.* Ithaca: Cornell University Press, 1987, p. 44.
131. *Ibid.*, p. 46.
132. *Strategic Command and Control: Redefining the Nuclear Threat.* Washington: Brookings Institution, 1985, p. 301.

Such an attack — or even just the potential for such an attack — has a number of destabilizing consequences. As Lebow points out, "by directly threatening important command centers, they compress warning and response time, thereby intensifying the incentive to rely on LOW [launch on warning], LUA [launch under attack], or preemption."[133] In other words, the likelihood of an accidental or inadvertent nuclear war as the result of a "false alarm" or a mistaken assessment of the adversary's intentions is increased. Paul Bracken notes as an additional danger the likelihood of a move to "greater degrees of pre-delegated authority to use nuclear weapons."[134]

Finally, apart from the threat to strategic command and control, forward-deployed systems of this type threaten the survivability of the so-called "air-breathing" leg of the strategic triad (i.e., long-range bombers), by enabling a surprise attacker to hit air bases before the aircraft have had a chance to take off. RAND analysts Alan J. Vick and James A. Thomson note that "alert" Strategic Air Command (SAC) B-52 bombers (30 per cent of the fleet, the others being even more vulnerable) require six minutes of warning for the crews to run from their shelters, board the aircraft, and take off, while "optimally located, forward-deployed SSBNs can put weapons onto targets in less than six minutes." As a result, in their estimation, "Soviet SSBNs forward deployed to within 2,000 kilometers of the American coast would be able to attack several SAC bases simultaneously, destroying the alert force on the ground or within seconds of takeoff (by means of an area barrage of nuclear weapons exploded in the air)." When the time to actually transmit the warning and make the decision to order the aircraft into the air is taken into account, according to Vick and Thomson, "any SSBN within ten minutes flight time would threaten air bases. Indeed, two SSBNs (each equipped with sixteen SS-N-18 missiles, for example), 1,000 kilometers off each coast, would together be able to attack every air

133. Lebow, *op. cit.* note 130, pp. 179-180.

134. *The Command and Control of Nuclear Forces.* New Haven: Yale University Press, 1983, pp. 244-245.

base in the United States with less than ten minutes warning."[135]

The Soviet Union, of course, has reason itself to be concerned about such forward deployments by the Western states, given that its installations on the Kola Peninsula, along the Siberian coastline, and in the Soviet Far East are all vulnerable to sea attack. According to Vick and Thomson, "American SSBNs forward-deployed in the Mediterranean, Laptev, Barents, and Kara Seas and in the Sea of Japan could launch a similar attack on the Soviet Union. Although Soviet geography would force the United States to use more SSBNs, their NCA and bomber forces appear as vulnerable as ours."[136]

A truly impressive array of defence analysts and former senior Government officials — including John Steinbruner;[137] Albert Carnesale, Joseph S. Nye, Jr., and Graham T. Allison;[138] William J. Perry (US Under-Secretary of Defense for Research and Engineering, 1977-1981);[139] Paul Bracken;[140] Richard Betts;[141] Desmond Ball;[142] Michael Nacht;[143] Bruce Blair;[144] and Richard Ned Lebow[145] — agree that some kind of coastal exclusion or "stand-off" zones represents a viable remedy to the hazards posed by forward-deployed submarines armed with ballistic or cruise missiles. Des-

135. "The Military Significance of Restrictions on the Operations of Strategic Nuclear Forces," in: Barry Blechman (ed.), *Preventing Nuclear War: A Realistic Approach*. Bloomington: Indiana University Press, 1985, pp. 114-115.

136. *Ibid.*, p. 115.

137. "Arms Control: Crisis or Compromise," *Foreign Affairs* 63:5, Summer 1985, pp. 1045-1049.

138. "An Agenda for Action," in: Allison (ed.), *Hawks, Doves, and Owls: An Agenda for Avoiding Nuclear War*. New York: Norton, 1985, p. 243.

139. "Measures to Reduce the Risk of Nuclear War." *Orbis*, Winter 1984, p. 1033.

140. Bracken, *op. cit.* note 134, p. 245; and "Accidental Nuclear War," in: Allison *et al.* (eds.), *op. cit.* note 138, p. 52.

141. "Surprise Attack and Preemption," in: *ibid.*, pp. 72-73.

142. Ball *et al.*, *Crisis Stability and Nuclear War: A Report published under the auspices of the American Academy of Arts and Sciences and the Cornell University Peace Studies Program*, January 1987, pp. 5, 84, and 88.

143. *The Age of Vulnerability: Threats to the Nuclear Stalemate*. Washington: Brookings Institution, 1985, p. 200.

144. Blair, *op. cit.* note 132, pp. 300-301.

145. Lebow, *op. cit.* note 130, p. 180.

mond Ball and his colleagues, in the working group established by the American Academy of Arts and Sciences (AAAS) and Cornell University's Peace Studies Program to examine "crisis stability and nuclear war," proposed the exclusion of "all ballistic missiles belonging to one side, whether at sea or on land, from a circle of perhaps 1500 miles drawn around the other's capital."[146] They note that "were such an agreement in force, Washington would have a warning time of 15 minutes against a nuclear missile attack, as compared with much less today."[147] Similarly, Paul Bracken writes that, were Soviet submarines to be excluded from American coastal waters, "The value to the United States of increasing the minimum warning time from five to twenty-five minutes is almost beyond calculation. It would sharply increase the survivability of the American bomber force and would greatly lessen the problem of ambiguous command authority arising from the threat of decapitation."[148] Such a measure, he writes elsewhere, "would give both sides precious minutes to take such steps as searching for corroborating evidence of attack or even translating messages sent over the Hot Line."[149]

Richard Ned Lebow chooses a similar distance criterion for what he terms a "keep-out zone," namely 2,500 kilometers, but would ban cruise missile-firing submarines as well as SSBNs.[150] The other proposals vary on this latter point, some specifying SSBNs only, others adding cruise missile-firing submarines, and still others neglecting to distinguish between the two, referring more vaguely to "missile-carrying submarines" or even "nuclear forces" in general. A number of authors have suggested a logical trade-off between forward-deployed Soviet submarines and American Pershing II IRBMs based in Europe; Bruce Blair noting that the intermediate-range nuclear forces (INF) negotiations and Strategic Arms Reduction (START) talks "would have to be bridged for this purpose."[151]

146. Ball *et al.*, *op. cit.* note 142, p. 88.
147. *Ibid.*, p. 84.
148. Bracken, *op. cit.* note 134, p. 245.
149. In: Allison *et al.* (eds.), *op. cit.* note 138, p. 52.
150. Lebow, *op. cit.* note 130, p. 180.
151. Blair, *op. cit.* note 132, p. 300.

However, apart from the fact that a separate removal of the Pershing IIs from Western Europe now appears likely as part of a US-Soviet agreement limited to INF, there would appear to be no need to link the disposition of forward-deployed submarine forces with that of land-based systems. In view of the preference which the Soviet Union has expressed in the past for limitations on forward maritime deployments, together with the vulnerability of its own coastal areas to attack with little or no warning as mentioned above, an agreement limited to maritime "stand-off zones" should prove equally attractive to both sides.

In principle, of course, each side should recognize the stake it has in not jeopardizing the survivability of its adversary's C^3I system. As William Perry puts it, "The Soviets should realize that close-in basing of their SLBMs poses as much of a threat to them as to the United States; if close-in basing causes us to devise a rapid response system, it increases the probability of falsely launching on warning. This is a problem that is of mutual concern to both countries and that both sides should work to resolve."[152]

One important difference, however, is that the United States feels most vulnerable along its east and west coasts, while the Soviet Union — given the dictates of geography — would be more concerned about its Arctic areas. Yet northern "stand-off zones" of 2,500 kilometers in width would encompass the whole of the Arctic Ocean, and be much more difficult to monitor than east or west coast zones. On the other hand, because Soviet installations are for the most part located further inland than their American counterparts, the width of the zone in the Arctic could be appreciably less than that of those covering the Atlantic and Pacific coasts. And an Arctic zone would still be of value to the United States and its NATO allies in providing additional warning time for those of their installations (especially early-warning radars) that are located in the Arctic.

Because of the possible verification difficulties in distinguishing between types of unidentified submarines and the above-mentioned

152. Perry, *op. cit.* note 139, p. 1033.

fact that cruise missile-carrying vessels pose a potent threat in their own right, any such stand-off zones should probably apply to all types of submarines, not just SSBNs. Such a prohibition extending to attack submarines would have the ancillary benefit, from the point of view of safeguarding the survivability of the sea-based deterrent, of making the initial acquisition of trail of SSBNs as they leave their home ports more difficult. Such a measure would certainly interfere with the current military practices of both sides, which include close-in patrols by attack submarines to collect intelligence and shadow SSBNs, and so quite sharp opposition to it can be anticipated. Yet if the threat of "decapitation" and the survivability of the air- and sea-based legs of the strategic triad is to be taken seriously, some degree of real restraint on current military practices may well be warranted. Furthermore, the practice of covert submarine intrusions into an adversary's coastal waters in itself aggravates tensions and risks untoward incidents which, theoretically, could lead to war, while unauthorized submerged transit within another state's internal or territorial waters has long been considered impermissible under the law of the sea.

The verifiability of such "keep-out" or "stand-off" zones is apparently in some dispute among the specialists. Blair speaks of the "extreme difficulty of verification" of a ban on close-in deployment of vessels carrying nuclear cruise missiles,[153] but the difficulty here — at least as far as submarines are concerned — would appear to lie in identifying whether a particular vessel is in fact carrying such missiles. This would not be a problem if, as suggested above, unauthorized submarines of all types were to be excluded from the "stand-off zone."

Another specialist in strategic command and control, Paul Bracken, states flatly that an agreement such as that proposed by Leonid Brezhnev in 1982 for "pulling back nuclear submarines from coastal areas . . . would be verifiable."[154] Desmond Ball et al. similarly note the "widespread confidence among senior U.S. Navy

153. Blair, *op. cit.* note 132, p. 301.
154. Bracken, *op. cit.* note 134, p. 245.

officers (shared by colleagues in the other services) that Soviet compliance with such an agreement could be adequately monitored without cooperative provisions." Furthermore, they go on to say that, if necessary for American domestic political reasons or to protect information about US intelligence capabilities, "cooperative technical means" could be "devised for verifying compliance without constraining surface vessels or submarines other than SSBNs [their prohibition would extend only to the latter], and which would not increase SSBN vulnerability in peace or war."[155]

Vick and Thomson are somewhat less sanguine about the possibilities of verifying such an accord. While agreeing that "the United States is certainly capable of building an elaborate detection system off its coasts to police such a zone," they express the fear that "most of our current ASW assets would have to be devoted to the patrol of this zone," while "we could [not] be . . . confident that a few SSBNs would not slip into" it.[156] While the latter point seems reasonable, the former appears less so: the United States and its allies, as well as the Soviet Union, for that matter, already maintain elaborate sensor systems to detect the approach of enemy submarines close to their shores; the need to monitor an explicit prohibition on the latter may impel the further development of such systems, with a variety of beneficial results, but it seems a gross exaggeration to suppose that the entire US ASW force, worldwide, would have to be devoted to this task.

A number of other possible objections have been raised in the still scant literature on the subject of forward-deployment restrictions. For example, there is the problem shared with so many similar types of CBMs, unlike the case with arms control measures affecting force-levels, that they could be violated on short notice. Richard Betts warns that "if the withdrawals had been negotiated and were violated, the repositioning of the weapons would make matters worse than if no agreement had existed."[157] The same can be said of

155. Ball *et al.*, *op. cit.* note 142, p. 84.
156. Vick and Thomson, *op. cit.* note 135, p. 122.
157. Betts, *op. cit.* note 141, p. 72.

any arms control agreement, of course. Betts goes on to note, however, in the context of a proposed trade-off between European-based Pershing IIs and forward-deployed Soviet SLBMs, that "the potential escalatory effects of violation might be modified (or deterred) by declaring in advance that any violation would trigger reciprocal reintroduction of the comparable system."[158] The same would be true of an agreement limited to submarines, although it is unclear how the "escalatory effects" would thereby be mitigated; rather, it would seem, hope would have to repose in the deterrence effect. Betts suggests as another possible remedy the "option . . . to declare that detection of a submarine within the forbidden range would prompt immediate launch of airborne communication links (which would mitigate the paralyzing effect of a decapitating attack on leadership in Washington, since subordinate commanders would have more chance of coordinating retaliation) . . . . if it has been declared in peacetime to be an automatic response it is less likely to elicit a preemptive response than if it is undertaken without prior explanation."[159]

Finally, Vick and Thomson cite "an important geopolitical asymmetry" between the Superpowers as a major obstacle to the creation of such a stand-off zone. In their words, "the Soviet Union could agree to a keep-out zone without seriously undermining its relationship with key allies," while "a U.S. agreement to respect a 2,000 to 3,000-kilometer zone around the Soviet Union would necessitate removal from European waters of SSBNs dedicated to NATO."[160] It is unclear, however, why the SSBNs in question could not remain committed to NATO and be capable of taking part in a European land battle, while still being stationed outside a zone of the dimensions necessary to safeguard the Soviet NCA and bomber bases (or, with the introduction of hard-target-kill-capable D-5 SLBMs by the US, Soviet fixed ICBM sites as well) from short-warning attack.

158. *Ibid.*, p. 73.
159. *Ibid.*
160. Vick and Thomson, *op. cit.* note 135, p. 122.

A submarine stand-off zone of such dimensions which went beyond SSBNs to include submarines of all types, as proposed above, would, of course, raise some real difficulties for NATO's defence. This suggests that such a zone, on the eastern side, should be restricted to waters poleward of Soviet Arctic territory. In effect, it would amount to recognition of the kind of SSBN sanctuary advocated by the Soviets, and others, in the past; this will be discussed in greater detail below. Since the West has never shown much interest in a "sanctuary" approach to its own forces, but *does* have a very real stake in keeping Soviet submarines as far from its shores as possible, there appears to be a logical trade-off here between quite extensive submarine stand-off zones on the North American side, and more geographically restricted SSBN sanctuaries on the Soviet. Whether the Soviets would actually agree to such an asymmetrical arrangement is another question, of course, but it is at least worth pursuing with them.

The creation of such zones would have the effect of dampening tensions, at least as long as the zones were respected; reducing the "decapitation" and first-strike threat from forward-deployed missiles; and ultimately, perhaps, deflating the pressure for unnecessarily large buildups of ASW capabilities in areas close offshore. As it stands, there is no bar to a state massing its submarine forces in the immediate vicinity of a potential adversary's coast, although such activities would almost surely be detected. A formal agreement proscribing such activities would add what Vick and Thomson refer to as "political weight to judgments made about the significance of certain warning indicators."[161] In other words, any such activities which occurred in blatant violation of an explicit ban would rightly be viewed with far greater alarm than those which, in the absence of such an agreement, could be explained away, for example, as a mere exercise. On balance, despite some difficulties and undoubtedly fierce resistance by those seeking to preserve maximum freedom of operation for naval vessels of every description, such a measure deserves further serious consideration on the multilateral, as well as the bilateral, plane. Within the regional context that is the subject of

161. *Ibid.*, p. 102.

this paper, it would go a long way toward alleviating the concerns of governments and native peoples alike about the "excessive militarization" of the Arctic environment.

AERIAL STAND-OFF ZONES

An analogous "CBM" for the air can also be imagined. Both sides currently engage in the practice of "aerial probing" of each other's air defences, by approaching close to one another's borders with bomber or reconnaissance aircraft. This practice provides a convenient means for each side's government to magnify and inflate the "threat" posed by the other in the eyes of the public, thus raising undue concerns about territorial integrity, and ultimately adversely affecting political relations between the states concerned. For example, the Government of Canada has recently, for the first time, begun issuing press releases to mark each of the many occasions throughout the year when Soviet aircraft are intercepted within the Canadian air-defence identification zone (CADIZ). Such events are given high visibility in the mass media and often portrayed as Soviet violations of Canadian air space, which is far from the truth — the CADIZ extends up to 180 miles outside Canadian territory, while the American zones, including the one surrounding Alaska, are up to twice as wide.

Aerial probing has been defended on the grounds that it serves to test and strengthen the readiness of a state's air defence forces; but such readiness can surely be tested and improved by other means, for example through the use of one's own penetrating aircraft in an adversary role (as is practiced in any case). Another possible objection to legislating an end to "aerial probing" is that it could interfere with legitimate intelligence-gathering by reconnaissance aircraft just outside a state's territorial air space, for example in monitoring compliance with arms control agreements. Whether the creation of an aerial stand-off zone, several hundred miles wide, would indeed have a serious detrimental effect on such activities would have to be investigated more thoroughly. If indications were that it would, then perhaps provision could be made for pre-

announced flights through the zone for purposes of arms control verification,[162] just as the test-launching of certain ballistic missiles beyond national borders is already subject to prior notification under the terms of the SALT agreements.

In rejecting the Soviet START proposal for heavy bomber "exclusionary zones," former US negotiator and ACDA official Michael Mobbs later complained that they "in practice would burden the United States more than the Soviet Union, given the global nature of U.S. interests and responsibilities . . . . the United States in effect would be cut off from many of its allies and from regions vital to its security, while the Soviet Union would not be similarly constrained."[163] This would certainly be true if such aircraft were confined to their own national airspace, as in earlier Soviet proposals, or even if, as Mobbs interprets the Soviet START proposal, "operations by either country anywhere in the world within weapons range of the other country" were banned. However, it would not be true if the zone in question extended a mere few hundred miles outward from the national territory of each Party, and did not encompass the territories of third parties or non-adjacent international airspace.[164] Whether such a circumscribed zone would appeal to the Soviets is uncertain, but it is at least in keeping with the principle of their earlier proposals, ostensibly designed to reduce international tensions. The adamant American refusal at START even to consider such a scheme, of course, allowed no room for exploring any possible flexibility in the Soviet position on this matter.

Aerial "stand-off" zones of this kind could cover the entire borders of the states concerned or begin experimentally on their Arctic frontiers alone. Since such a high proportion of aerial probing, and interception, does in fact occur in the Arctic regions, it would be a particularly useful measure as far as this area is concerned, and the confidence-building effect even of zones limited to the Arctic could be significant in terms of the overall phenomenon.

162. I am indebted to Jane Boulden for this point.

163. Mobbs, *op. cit.* note 129, p. 160.

164. An exception could perhaps be made for Canadian airspace, on grounds of the close integration of Canadian and US air defences.

SSBN SANCTUARIES

Finally, although SSBN sanctuaries could be categorized in a variety of ways — for example, as mutual force reductions or even partial demilitarization agreements — it may not be doing too much violence to the concept to include them under the rubric of CBMs as well. Proposals for such sanctuaries to aid in preserving the relative invulnerability of the sea-based deterrent have been extant for some time. Not surprisingly, given the basing of Soviet SSBNs, the areas most often mentioned as likely candidates on the Soviet side are found in the vicinity of its Arctic territories, namely the Barents and Okhotsk Seas. On the American side, the Gulf of Alaska has been proposed as a possible SSBN sanctuary but, given the US preference for open-ocean dispersal of its SSBNs, such sanctuaries have generally been considered much less attractive to the United States. In fact, one of the principal objections to the idea has always been that they would disproportionately benefit the Soviet side. Other variants of the SSBN sanctuary concept have been suggested — for example by Ken Booth, that they cover the entire EEZs of each of the superpowers,[165] and by Willy Ostreng, that the entire Arctic Ocean be constituted as one.[166]

There are several objections to the idea. One, already mentioned, is that it would disproportionately benefit the Soviet Union, in view of its current practice of concentrating its SSBNs in so-called "bastions" adjacent to its northern coasts. More importantly, the Western ability to threaten submarines of all types in these "bastions" is considered to be an essential part of its overall ASW strategy, forcing the Soviet Union to assign considerable forces (in fact, the bulk of its overall naval power, according to some analysts)

165. Ken Booth, "Law and Strategy in Northern Waters," paper prepared for the Conference on "Northern Waters: Security and Resources Issues," Ellon (Aberdeen), Scotland, 17-19 September 1980.

166. Willy Østreng, "Strategic Developments in the Norwegian and Polar Seas: Problems of Denuclearization," *Bulletin of Peace Proposals* 13:2, 1982, pp. 101-112; and Østreng, "The Strategic Balance in the Arctic Ocean—Soviet Options," in: William Gutteridge (ed.), *European Security, Nuclear Weapons and Public Confidence*. London: Macmillan, 1982, pp. 125-154.

to protect the "bastions" from attack. If the latter were not threatened by Western ASW forces, so the argument goes, much larger numbers of Soviet aircraft, surface vessels, and submarines would be freed up to interdict the vital Western sea lines of communication (SLOCs). However, whether the Soviets could, or would, actually rely on the sanctity of the "ASW-free zone" in the event of crisis or war is somewhat doubtful. More likely, they would draw back into their bastions in any event, not trusting the West to respect the agreement. The existence of the formally recognized sanctuary could still have a stabilizing impact, however, in constituting a kind of fire-break that a potential intruder might hesitate to cross, even in wartime.

Another traditional objection to the idea of an SSBN sanctuary is that it may actually serve to increase the vulnerability of the sea-based deterrent by concentrating such vessels in a relatively restricted area, which might then be subject to "barrage" attacks by the adversary's ballistic missiles. At the very least, it is argued, the opponent's ASW task would be facilitated by allowing him to focus his efforts in a particular area.[167] The feasibility of barrage attacks on SSBNs has been a matter of some controversy among specialists, but the two most recent comprehensive studies of "strategic ASW" agree that it is not a viable option for either of the Superpowers. Tom Stefanick, for example, calculates that the number of equivalent megatons (EMT) necessary for high-confidence destruction of all SSBNs within areas as large as the Barents Sea (394,000 nm^2) or Sea of Okhotsk (452,000 nm^2) would be 10,600 and 12,100, respectively. Yet the entire US arsenal of ICBMs and SLBMs in 1985 carried a total of "only" 2,207 EMT.[168] The degree to which the ASW task might nevertheless be rendered easier, by the concentration of SSBNs within a sanctuary, would depend on the degree of

167. See e.g., Johan Holst, in: Jan H. Veldman and Frits Th. Olivier (eds.), *West-European Navies and the Future*. Den Helder: Royal Netherlands Naval College, 1980, pp. 91-93, for this and other criticisms of the "sanctuary" idea.

168. Stefanick, *Strategic Antisubmarine Warfare and Naval Strategy*. Lexington, MA: Lexington Books, 1987, pp. 37-38; see also: Donald C. Daniel, *Anti-Submarine Warfare and Superpower Strategic Stability*. Urbana: University of Illinois Press, 1986, pp. 20-21.

access by a variety of ASW sensors and weapons systems to the area in question. In the case of sanctuaries close to the coasts of either superpower, such access by its adversary (with the sole exception of nuclear-powered attack submarines), especially in a time of crisis or war, would be very limited, indeed.

As in the case of other suggested controls on strategic ASW, the need for sanctuaries has been discounted, on the grounds that a disarming strike against the entire SSBN fleet of either superpower is not now feasible and will not be so for the foreseeable future, given the limitations of ASW, particularly in coordinating such a massive, simultaneous attack, and given likely countermeasures. However, such an assessment ignores the far more real danger that, in the course of a protracted conventional war at sea — particularly if SSBNs are deliberately targeted for early destruction, as in the US Navy's current "Maritime Strategy" — the gradual attrition of one side's sea-based deterrent could result in escalation to the nuclear level.[169] While retaliation against an adversary's actual homeland would invite an intercontinental nuclear exchange and might not therefore be a plausible response, escalation to the tactical nuclear level, against other high-value naval targets such as aircraft carriers, certainly could be. SSBN sanctuaries would be stabilizing in this respect, even discounting the threat of an all-out first strike on the sea-based deterrent.

The specific proposal for a Barents Sea sanctuary has been attacked by Norwegian analysts as jeopardizing their country's position in various offshore disputes with the Soviet Union.[170] Ken Booth's proposal that such a sanctuary be limited to the exclusive economic zone of the Soviet Union would help mitigate this problem. However, if it were desirable to expand the sanctuary to include a greater portion of the Barents Sea — particularly since the Soviet side is generally more shallow and hence less suitable for SSBN

169. For an excellent analysis of this problem as applied to the Nordic area, see: Barry R. Posen, "Inadvertent Nuclear War? Escalation and NATO's Northern Flank," *International Security* 7:2, Fall 1982, pp. 28-54.
170. See, e.g., Holst, *op. cit.* note 167.

operations — there is a precedent for this in terms of unilateral Norwegian restrictions on military activities of various kinds in the areas adjoining its superpower neighbour. For example, apart from the well-known ban on nuclear weapons and Allied military bases which applies to the entire country, Allied aircraft, naval vessels, and ground forces are not allowed to operate in the easternmost county of Finnmark. As in the case of NWFZs, of course, the scope of the prohibitions associated with an "ASW-free zone" could be problematic. Passive detection systems of the type already in place off northern Norway might be permitted in certain areas, on the grounds that they serve a stabilizing, early-warning function, and pose no immediate threat to SSBNs as long as actual weapons platforms such as attack submarines, maritime patrol aircraft, and anti-submarine surface craft are excluded.

Finally, as with so many other arms control proposals dealt with in this paper, the SSBN sanctuary or ASW-free zone has been faulted on the grounds of verifiability, particularly as regards possible submarine intrusions. If the sanctuaries were limited to fairly discrete bodies of water, such as the Barents or Okhotsk Seas, or even to the 200-mile-wide EEZs of the Superpowers and other states, verification might not be so difficult; for the most part these areas are already littered with ASW detection devices and/or regularly patrolled by surveillance units. However, verification would be a greater problem in the case of an Arctic Ocean-wide sanctuary, given the difficulty of detecting submarines under the polar ice-cap. The most that can be hoped for by way of limiting ASW capabilities in the Polar Basin may well be the kind of "limited demilitarization" agreement discussed earlier.

CONCLUSIONS

The preceding brief survey has identified a number of Arctic arms control proposals deemed worthy of further serious consideration. It has suggested that Arctic-wide NWFZ agreements, as well as broader demilitarization schemes, are, on the whole, probably not worth pursuing any further at this time. A truly comprehensive scheme of demilitarization such as applied to Antarctica is simply not feasible in the northern polar region, given the scale of military activities already underway there. Since most existing proposals for Arctic arms control concern some kind of nuclear weapon-free zone, the bulk of the paper has been devoted to a discussion of this concept, both in its sub-regional manifestation (the Nordic NWFZ proposal), and in various proposed Arctic-wide variants. While primary emphasis has been placed on the *feasibility* (or more precisely, the lack thereof) of such schemes as applied to broad areas of the Arctic, their very *desirability* has also been challenged. Just as one must distinguish between various kinds of conventional military activities in the area — virtually all advocates of Arctic arms control, for example, heartily endorse the continued operation of early-warning facilities and other limited forms of surveillance, if only to verify compliance with whatever measures of arms control are agreed to — so must one distinguish between various kinds of *nuclear* weapons systems and related installations. In particular, the continued, or even expanded, presence of ballistic missile-carrying submarines in the region should be positively welcomed, rather than deplored, in the interests of overall strategic stability. It is important, however, that such vessels are kept a certain distance away from the coasts of potential adversaries, so as to reduce their first-strike potential and at the same time alleviate the

concerns of indigenous peoples about the general level of militarization of their environment.

In sum, at least four specific proposals for Arctic arms control do appear to be desirable and to hold at least some promise of "negotiability" in the not-too-distant future: 1) a partial demilitarization of the Polar Basin; 2) a submarine stand-off zone; 3) an aerial stand-off zone; and 4) some kind of SSBN sanctuaries or "ASW-free zones," if limited to the near-coastal waters of the states concerned. Traditionally, such proposals (with the possible exception of the first) have been thought to fall within the exclusive competence of the Superpowers. However, there may well be merit in a *circumpolar* approach to these questions, involving the so-called "lesser" states of the Arctic region as well. One method, of course, would be to convene a special conference of the circumpolar states to discuss such measures, as proposed by the Canadian Institute of International Affairs in June 1982.[171] A more indirect method — but possibly more fruitful, precisely because it would be less dramatic — would be to take advantage of the on-going discussions within the United Nations system on the subject of naval arms control. For example, an "Arctic sub-group" could be created at the upcoming Third Special Session of the UN General Assembly on Disarmament (UNSSOD III), where naval arms control is certain to be on the agenda.[172] Canada, as the "big brother" among the "lesser" circumpolar states, might be expected to take the lead in such an initiative — focusing initially, perhaps, on the partial demilitarization of the Polar Basin, as this is likely to be a somewhat less sensitive subject for the Superpowers.

That the Soviet Union may be receptive to such proposals was clearly indicated in a speech by General Secretary Gorbachev in Murmansk, on 1 October 1987. In its arms control aspects, the speech focused primarily on Northern Europe, in particular calling for NATO-Warsaw Pact consultations on "the restriction of military activity and scaling down of the naval and airforce activities in the

171. CIIA, *op. cit.* note 114, p. 19.
172. I am indebted to Jan Prawitz for this idea.

Baltic, North, Norwegian and Greenland seas and the spread of confidence-building measures to these areas."[173] However, Gorbachev began by proposing that "all countries concerned should embark on talks on the limitation and scaling down of military activity in the North as a whole, in both the eastern and the western hemispheres"[174], and described the European-oriented approach as a possible "initial step to the spread of confidence-building measures to the entire Arctic, to northern areas in both hemispheres."[175] Finally, he openly invited Arctic arms control initiatives from the Western side, in declaring that "We are ready to discuss any counter proposals and ideas."[176]

Still, one must avoid excessive optimism about the likelihood of measures such as a partial demilitarization of the Polar Basin, submarine and aerial stand-off zones, and ASW-free zones, being accepted, especially by the United States. No progress in any kind of naval arms control is likely to occur during the lifetime of the current Administration in Washington. However, it is just possible that the next US Administration, perhaps less closely identified with the views of the US Navy, may be somewhat amenable to approaches of this type. As for the Soviets, the West should at least be testing the seriousness of their various proposals for naval arms control, some of long standing, by responding with counter-proposals of its own and not simply assuming that any kind of naval arms control whatsoever is necessarily disadvantageous to the West.

Finally, this paper has not yet answered one specific question posed at the very beginning. How can the increased emphasis on military activities in the Arctic reflected in the Canadian Government's recent White Paper on defence, particularly the planned acquisition of nuclear-powered submarines partly for Arctic duties, be reconciled with that same government's expressed commitment to seek to limit the "excessive militarization" of the region? On the

173. "Gorbachev—International Affairs," Soviet Embassy, Ottawa, *Press Release*, 6 October 1987, p. 8.
174. *Ibid.*, p. 7.
175. *Ibid.*, p. 8.
176. *Ibid.*, p. 10.

one hand, it could be argued that increased surveillance capabilities of various kinds — including nuclear-powered submarines, in the case of a submarine "stand-off" zone — would be necessary to help monitor any measures of negotiated arms control that might be reached for the region. Certainly, as noted above, many of the peace groups in Canada and abroad who argue for a "demilitarization" of the Arctic are nevertheless prepared to accept the continued, or even expanded, presence of surveillance systems of various kinds, to monitor agreements and help safeguard against surprise attack. While most would clearly not go so far as to endorse the acquisition of nuclear-powered submarines for this purpose, any Canadian Government committed to the current submarine programme would undoubtedly marshal such arguments in its favour.

On the other hand, insofar as negotiated submarine stand-off zones might contribute to diminishing what, in some quarters, threatens to become a positive hysteria about the intrusion of foreign submarines into Canadian coastal waters, then such zones could have the effect of undermining public support for the submarine programme, at least on its currently planned scale. Thus in the end they might reduce somewhat the extent of militarization to which Canada, at least, would directly contribute.

In any case, if a comprehensive Canadian Arctic security policy including measures of the type announced in the Defence White Paper is to have credibility with the public at large, the Government should be energetically pursuing negotiated measures of arms restraint in the region. At this time, the Canadian Government is only beginning to look at the possibility of such "Arctic-specific" measures. Much work remains to be done before it will be in a position to endorse particular proposals and begin advancing them through diplomatic channels. However, the matter is increasing in urgency and the time is apparently ripe for such initiatives.

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